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QUANTITATIVE ASPECTS OF THE ECONOMIC GROWTH OF NATIONS

IV. Distribution of National Income by Factor Shares

SIMON KUZNETS

ARCH CENTER IN ECONOMIC DEVELOPMENT AND CULTURAL CHANGE
THE UNIVERSITY OF CHICAGO

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QUANTITATIVE ASPECTS OF THE ECONOMIC GROWTH OF NATIONS

IV. DISTRIBUTION OF NATIONAL INCOME BY FACTOR SHARES*

Simon Kuznets, The Johns Hopkins University

I. Conceptual Problems

The distribution for recent years of national income by shares approximating factor payments can be illustrated by using the United Nations Yearbook of National Accounts Statistics, 1957.[1] The following shares are distinguished:

i. Compensation of employees--all wages, salaries, and supplements, whether in cash or kind, to normal residents employed by private and public enterprises, households and non-profit institutions, and general government. It also includes labor income paid by the rest of the world to the country's normal residents and compensation of members of armed forces stationed abroad, overseas diplomatic and consular staffs, and employees on ships and aircraft of domestic carriers. The earnings are recorded before payment of taxes and deduction of social security contributions. Payments by employers to social security agencies on behalf of employees are considered part of the flow.

ii. Income from unincorporated enterprises--income in money and kind accruing to individuals in their capacity as sole proprietors or partners of enterprises and as independent professional men. Income from ownership of land, buildings, and financial assets is supposed to be excluded and put under item iii.

iii. Income from property--all actual or imputed payments to individuals and private non-profit institutions in their capacity as owners of financial assets, land, and buildings. The major components are: rent--net of operation costs and including the rental value of owner-occupied dwellings and farmhouses; interest--actual interest payments received by households and non-profit institutions, including interest on government bonds and imputed interest from life insurance companies, banks, and other financial intermediaries; dividends--including payments accruing to households and non-profit institutions from corporations and cooperatives; corporate transfer payments--grants by corporations to households and private non-profit institutions, and including allowances for bad debts.

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* This paper draws heavily upon work in the field initiated under the auspices of the Committee on Economic Growth of the Social Science Research Council. As with the other papers in the series, Miss Lillian Epstein provided indispensable assistance in preparing the tables and editing the text.

1. Statistical Office of the United Nations, New York, 1958. The definitions are given on p. x.

iv. Savings of corporations--the part of income earned by private corporations and cooperatives, and public corporations, which remains after direct taxes are paid and dividends distributed. This flow is supposed to be calculated with capital consumption on a replacement basis and with adjustment for changes in value of inventories. (Both of these adjustments apply also to item ii.)

v. Direct taxes on corporations--taxes levied at regular intervals on profits, capital, or net worth.

vi. General government income from property and entrepreneurship--receipts by general government from government enterprises, as well as net rent, interest, and dividends accruing from the ownership of buildings or financial assets. Profits and losses of state monopolies are not included; and an imputation of net rent is supposed to be made for buildings owned and occupied by the government.

Since the sum of items i through vi includes (vii) interest on public debt and (viii) interest on consumers' debt, which can be viewed as transfers, items vii and viii are subtracted to yield national income.

Disregarding for the moment obvious statistical difficulties in estimating some of the shares just defined, we consider the more far-reaching conceptual questions. Their recognition is indispensable for a proper understanding and analysis of the results of the statistical comparisons which we use for this particular aspect of the economic growth of nations. Even though the questions prove unanswerable, we shall at least be on guard against facile misinterpretations of the statistical evidence.

It may clarify matters if these questions are discussed under four heads: (a) the definition of the total to be allocated by factor shares; (b) the treatment of government interest and direct taxes; (c) the distinction among the several factors; (d) the primary and other levels of distribution.

a. Since the factors whose shares are to be established are the only productive elements in the economy, the total is presumably the complete net product--at prices at which the factors enter input. But what is that net product? The current definition treats it, in essence, as the factor price equivalent of consumers' outlay, private net capital formation, and goods purchased by the government; or, alternatively, as the sum of compensation of employees, entrepreneurial income, net dividends, net rent, net interest payments (excluding those on government and consumer debt), and corporate savings gross of direct taxes--but with no provision for general government profit and loss.

Two questions are at issue. The first is the justification for considering all government outlay on commodities and services as final product, thus treating government as an ultimate consumer--not as a producer. Were we to argue that much of government activity is not final product but cost of operation, similar to that of business enterprise, we would have to allow for government savings just as we do for the savings of corporations--as the disparity between current receipts and disbursements, or alternatively, as the difference between the increase in debt and in assets.

This problem (and some of the others that follow) has been discussed at length elsewhere, and there is no need to dwell upon it here.[2] The argument that government cannot be oriented to the income and loss test does not hold in the long run, if the test is understood in its true meaning--as relating real input to real output, both judged by a mechanism of social consensus--a meaning which in fact is also followed in the case of business enterprise. A government which does not meet this test, which over decades extracts large quantities of resources from the economy for which it returns very little in the form of direct services to individuals, additions to the capital stock, or improvement of the social framework, will fail, just like a private firm. And the need for analysis of the performance of governments in terms of both input and output has been made even more pressing in recent years by two circumstances. One is the general rise in the proportion of national resources absorbed by government in the free societies. The other is the emergence, particularly in the U.S.S.R., of relations between the government and the economy that cannot be subsumed under the conventional treatment described above.

Government savings can be positive or negative, depending upon the balance between its current revenues and expenditures. The inclusion of this item in the national income total, apportioned by distributive shares, will augment the weight of the items which, like corporate savings, are not allocable to individual recipients. It should be included on this ground alone, in order to show--as present estimates fail to do--the growing difference between the national income total and the part allocated to individuals, households, or associations of them.

The second question relates to the "netness" of the product. Some consumer outlay goods are essentially business expenses, i.e., necessary for the purpose of securing income and directly connected with the working process. Commuting expense to and from the job--an unavoidable item in a big metropolitan community--is but one illustration of many that can be cited. Any allowance for such "grossness" of consumer outlay would appear in the distribution by factor shares as a cost to be subtracted from compensation of employees or income of unincorporated enterprises--but would hardly affect property income receipts, which are already estimated on a fairly "net" basis. The point is of some importance in connection with the interpretation of trends over time in the share of participation income (compensation of employees and incomes of the self-employed) or in international differences in cross-section analysis: a rise in the share over time may be partly due to an upward trend in "grossness", i.e., increasing business expenses included in the wage, salary, or the self-employed unit's income; and larger shares in the more developed, urbanized countries than in the underdeveloped may be due to a larger element of "grossness" in the former.

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2. See "Government Product and National Income", Income and Wealth, Series I, International Association for Research in Income and Wealth, Bowes and Bowes, Cambridge [England], 1951, pp. 178-244; "On the Valuation of Social Income", Economica, New Series, Vol. XX, Nos. 57 and 58, February and May 1948, pp. 1-16 and 116-131; and "National Income: A New Version", Review of Economics and Statistics, Vol. XXX, No. 3, August 1948, pp. 151-179.

b. The interest payments on government debt are excluded, presumably because the debt, having been contracted primarily for unproductive purposes such as financing wars, is "deadweight". But so, of course, is the bonded debt of many corporations, the capital good for which the loan had been raised having long been destroyed or become obsolete. Nevertheless, we include interest payments of corporations, and if the payment does not correspond to the product, we make the adjustment through the corporate net profit or loss, i.e., through corporate savings. Clearly, if we include government savings, we should also include interest payments on government debt; and if we exclude the former only for lack of data, there is no good reason in theory for excluding the latter.

The treatment of direct taxes is a far more important problem. In the customary estimates these taxes are not deducted from income payments or corporate savings, presumably because it is the wage, salary, total income of individual entrepreneurs, etc., before deduction of direct taxes, that measures the price actually paid for the services rendered. From the standpoint of an individual firm the cost of the services of the factors that it employs should not exclude direct taxes. But from the standpoint of society as a whole and of the living carrier of the productive factor itself, such treatment is questionable. If a person weighs alternative uses of his time and energy, can we assume that the distribution between his income- and non-income-producing activities is not influenced by direct taxes on his income? Can we argue that the various groups within society are not affected by the different distributions of tax burdens and benefits--that they are completely under the "money illusion" of nominal income before taxes?

This problem has also been discussed at length in the sources cited in footnote 2, and there is little need for further discussion here. There is much to be said for defining the compensation of a factor as the payment received or retained by it, net of direct taxes but inclusive of direct services rendered by government (or business) gratis or at a rate below market prices (in which case only the favorable differential is to be included). This represents the true measure of the share that the factor receives and should, therefore, be a better guide to the responses of the factor to differential compensation or opportunities. The matter is of some importance in international and temporal comparisons. Thus, on this account alone, the share in national income of low-income working groups, and perhaps of employees as a whole, would be larger in the developed countries than now shown because the ratio between direct taxes and direct benefits (such as free education, low-price medical services, and the like) would be more favorable to the employee groups than to the recipients of property income or to entrepreneurs (we assume here that property and much of entrepreneurial income is subject to higher direct taxes and that general government expenditures on administration, defense, etc. are costs to society as a whole, not direct benefits to property income recipients). In the underdeveloped countries (or in the earlier periods in the developed countries) the weight of direct taxes is much smaller, as is that of direct services by governments, even proportionately.

c. The classification of factors of production has had a long and varied history in economic analysis since the end of the 17th century. To deal with the twofold division between labor and capital, the threefold division among labor, reproducible capital, and land, the fourfold grouping that would add the factor

of enterprise, and to consider the various and changing meanings given to these terms is hardly in order here. Nor would such an exercise add to our analysis of the statistical evidence, except for the lesson so emphatically drawn by Edwin Cannan in his brilliant analysis of the classical theories of production and distribution, viz., that, as guides to empirical analysis, the theories have been ambiguous and at best suggestive; and that their real value lay in the view they provided of major current problems and their alternative solutions.[3] Surely, one could arrive at a similar judgment of the Marxian theory of factors of production, whose value lies in its use for political inferences regarding the conflict between labor and capital; of the neo-classical theory with its marginalist approach so useful for dealing with short-term changes; of the Schumpeterian view with its emphasis on the entrepreneur and the climate of the social milieu within which he operates.

This is not to deny that much has been learned in the process of constructing sweeping theoretical models as bases for understanding that emphasizes implications for major policy problems. If I may be rash enough to state the substance of what has been learned and is of bearing upon the problems of economic growth, I would put it in two brief statements. First, in the long run, the various factors of production are substitutible for each other; and consequently there is no general purpose, intrinsic, and immanent distinction among them. Distinctions can, of course, be drawn, but they can be drawn in different ways depending upon the problem at hand. Second, for the problem of economic growth, the most important distinction is perhaps that between the factors that can contribute to greater production per worker or manhour, and those that cannot. Labor, in its most abstract meaning, which has been most closely approximated in Marxian discussion, i.e., as elementary socially useful labor time, unadorned by investment in training and education, is then the first productive factor. Everything else, whether it is investment in the training and education of active participants in production, or investment in material stock, or an element of enterprise, is capital--in the sense that it provides conditions for augmenting product per manhour.

Whether or not one agrees with this definition, its implications are important; and their bearing upon the statistical evidence cannot be neglected. Compensation of employees is, in the light of the statements above, not merely the share of labor; much of it is return on capital invested in human beings. There is no such factor as enterprise, since entrepreneurial decisions have meaning only within the context of the stock of knowledge and capital that permits increased product per manhour. Capital as measured in the study of economic growth should be defined in terms of its impact on growth, as well as in terms of diversion from use for current maintenance. Thus, paralleling the classification of some compensation of employees and entrepreneurial income as return on capital, capital formation should be defined to include investment not only in material things but also in the stock of human knowledge. Guided by such a concept, we should allocate compensation of employees and entrepreneurial income between returns to labor and returns to capital and add the latter

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3. Edwin Cannan, A History of the Theories of Production and Distribution, London, 1893, particularly Ch. IX, pp. 379 ff., the first section of which is characteristically described in the running head as "unscientific economics; practical politics".

to savings of corporations and other enterprises and property incomes to derive total returns to capital. We could then subdivide the latter, distinguishing between returns to investment in training and to investment in commodity capital; between payments to recipients outside the enterprises and retention by enterprises; and so on. The rationale behind this suggestion is that if factor shares are supposed to reveal how the distribution of the national product bears upon the supply of factors and vice versa, a fundamental link in the process of economic growth, then the factors involved are capital and labor as defined above; and the returns to these factors should be so defined.

d. The allocation of national income by factor shares in the available estimates may be characterized as a "primary" distribution, i.e., as it emerges in the productive process and before any "redistribution" takes place. One step in "redistribution" is the subtraction of direct taxes and addition of direct benefits from the government; and the argument made above that the true prices of factors are their compensation net of direct taxes and inclusive of uncompensated direct benefits from the government can be viewed as an attempt to push the allocation to a "secondary" level from a "primary" distribution. Other forms of redistribution come easily to mind. For example, in some underdeveloped countries, many individuals who do not earn enough to provide for their consumption borrow for this purpose, but interest payments on such debts are not included in property income, since they are not compensation of a factor employed in the productive process. And the same is true of interest on consumer debt in economically developed countries. Finally, there are the capital gains and losses, gains and losses from gambling, and even from illicit activities--none of which enter the distribution of national income by factor shares, on the clear ground that they are not payments to factors engaged in economic production.

Even if we accept the argument that redistribution through direct taxes and direct benefits should be included, since it must affect the adjustment of factors to differential opportunities in time and space, the allocation by factor shares will still be quite different from the distribution that would show how the performers of labor and possessors of property fare in the economy. Control over assets separable from human beings may yield to their possessors shares in the product that are larger than those accounted for in property income payments included in the usual estimates--whether or not net of direct taxes and inclusive of direct benefits. Members of society who have only their labor services to offer may have no such advantages. This point is particularly relevant in international comparisons, when we deal with underdeveloped countries where the distribution of property may be widely unequal and where large groups in the population have no reserves. Under such conditions a smaller proportional share of property income, as measured in the available estimates, than in the developed countries may have quite different implications for the inequality in the distribution of final income shares and of economic power. The point to be remembered is that the compensation of the factors, as measured by their shares in national income, is at a level quite close to the productive process, and records no further redistributions that may reflect economic gain and power different from those shown at this "primary" level.

None of the suggestions that follow from the four major questions posed above have, in fact, been applied to the statistical evidence here. The first two

problems, relating largely to the treatment of government in the measurement of total national product and in its allocation by factor shares, would require not only a definitive interpretation of the meaning and purpose of government expenditures, but also elaborate statistical manipulations--both of which are beyond the capacity of an individual scholar, particularly if such analysis and adjustments are to be widely acceptable. An analysis of consumer outlay that would attempt to segregate items directly connected with the earning of income, and hence classifiable as business expenses and deductible from compensation of employees and entrepreneurial income, faces the same problems. The third point, which in its distinction between labor and capital stands, as it were, Marxian economics on its head--but in application to problems of economic growth rather than to problems of value determination and class struggle--calls for a detailed analysis of compensation of employees and incomes of entrepreneurs for groups with different training and education. Finally, the study of the various "redistributions" calls for data not now available--except for one or two countries for one or two years. At the present stage of work in the field, we can only accept the estimates as they stand, treating them as consistently as possible.

But even if we cannot modify the available estimates of distributive shares in national income, we can analyze them for whatever they can reveal. Granted that compensation of employees includes a sizeable proportion of return on past investment, it still includes a smaller proportion of such return than property incomes, and for most recipients it depends upon current employment. Granted that the income of unincorporated units contains a large element of labor income, it also reflects control over some physical assets, and thus differs from wages and salaries. Granted that in some countries much of property income is received by retired people and middle income groups, it is true that the share of upper income groups in property income payments is still distinctly higher than their shares in other types of income received by individuals. As in all economic statistics, the institutionally available categories do reflect real distinctions, and their failure to resolve some major underlying problems in the definition and measurement of purer analytical concepts and the easy misinterpretation to which these statistics are subject are not reason enough for us to dismiss them as worthless. The fault may lie with our desire to push analysis to clearly defined distinctions far removed from those recognized in the institutional patterns of our society. At any rate the data are here, and are being used and often misused. Under the circumstances it is perhaps best to accept the institutional accounting conventions of the available estimates for the half-loaf that they are; and use the broader critical comments above as background to qualify the findings and to indicate the directions in which further work should proceed.

Long-term data on this aspect of national income structure are quite scanty. Cross-section data for recent years, while still leaving much to be desired, are far more plentiful: in addition to information on various countries, we have data by states for this country. We, therefore, review first the cross-section data on all the aspects of the distribution by type of income, deriving from them insight not only into the significance of the various measures but also into the trends that we may expect to find in the long-term records. After this comprehensive review of the cross-section comparisons, we turn to the more scanty direct data on long-term trends.

II. Cross-Section Comparisons for Recent Years

A. International Comparisons--The Broad Findings

We begin by using the estimates for 1938 and for more recent post-World War II years, available for a number of countries. The general procedure has been to take the single year data for 1938 and the averages for the five most recent years, and calculate the shares in national income including interest on government and consumer debt for each country. We include interest on government and consumer debt because in the estimates for most countries the latter is not distinguished, and because the argument for excluding the former is not compelling. Furthermore, since cross-section comparisons could be made for only relatively few countries even in post-World War II years, we included all units, even those with fewer than one million inhabitants (excluded in the analysis of industrial structure in Paper II of this series). In 1938 all the countries that could be included were above that limit, and none were colonies of the type covered in most recent years. The summary results appear in Table 1, and the percentage shares for each country are given in Appendix Table 6.

We grouped the countries by per capita income, along the lines followed in the earlier papers in this series; and then computed averages for each group in an attempt to see the relation between the distribution of the national income, or rather of the allocated total, and the economic development of the country as measured by its per capita income. For 1938, the number of countries is small, and most of them are in groups I and II. Hence, a division into only two broad categories could be made (columns 1 and 2), in which the second comprises at most three countries in group III, one country in group V, and two countries in group VI. A somewhat more detailed grouping could be carried through for the post-World War II years: in columns 3-6 all countries are grouped, in columns 7-9 small units (with a population of less than a million) and colonial territories are both excluded, since colonial status affects the structure of income by distributive shares. The categories distinguished are those listed in the opening paragraphs of this paper, and follow the United Nations classification--the data in fact being summarized from recent United Nations reports on national income.

The income total that was allocated is larger than national income as defined in the United Nations national accounts when it includes interest on government and consumer debt. Since interest on consumer debt is distinguished for only a few countries, the percentage excess of the allocated total over national income (line 2) largely reflects the relative weight of interest on government debt. This item constitutes a small ratio of national income which, at least in the post-World War II years, declines as we move down the array of countries by per capita income. If interest payments on government debt in recent years were deducted, the share of income from assets would be reduced more in the developed than in the less developed countries, but the effect would be minor.

The findings can be briefly listed:

i. The share of compensation of employees in total income tends to be higher in countries with high income per capita, lower in the less developed countries. It drops from 54 percent in column I to less than 47 percent in column 2; from 60 percent in column 3 to 46 percent in column 6. The range is

somewhat narrower when we exclude the colonies and the small units (columns 7-9), but it is still appreciable.

ii. Conversely, the share of income of unincorporated enterprises increases as we move from countries with high to those with low income per capita. The rise is appreciable even in 1938--from 21 to 33 percent; and in the more recent years the share almost doubles, from 20 to 36 percent in columns 3-6 and from 19 to 33 percent in columns 7-9.

iii. The sum of compensation of employees and income of unincorporated enterprises constitutes what was referred to in Paper III as participation income. The residual can be designated income from assets, and its share is of great interest (line 17). In 1938 there is only a minor movement; and the safest conclusion for that year is that the share of income from assets does not show significant change as we move down the array of countries by per capita income. The broader grouping for the post-World War II years (columns 3-6) shows a somewhat irregular movement primarily because the detail for some countries is not sufficient to derive this share. If we disregard the drop in column 4, due largely to lack of coverage (and reflected in the total of all allocated income in line 18 of less than 100 percent), there is a fair constancy. However, when we exclude colonies and small units (columns 7-9) we find a drop in the share of income from assets as we move down the array by per capita income. But the decline is rather slight, less than a fifth of the share for group I; and since the sample is limited and the data are crude, we cannot attach much weight to this decline. At any rate, it seems fair to conclude that any decline in the share of income from assets as we move down the array of countries by per capita income is quite moderate, and the share is not too responsive to differences in per capita income. The same conclusion naturally applies to the share of participation income.

iv. The several components of income from assets show interesting and different associations with income per capita. As we move from high to low income countries, the share of gross savings of corporations, including taxes, is fairly constant in 1938, shows an irregular movement for the larger sample in post-World War II years, but declines appreciably when colonies and small units are excluded (line 14). The difference between columns 3-6 and columns 7-9 reflects the operations in colonial territories of corporations located within these areas but representing the participation of the advanced mother countries. Likewise, in the countries excluding the colonies, in the more recent years and in 1938, the share of income from government property and enterprise tends to be higher in the countries with high per capita income (line 16). Thus, the share of income from assets flowing through the larger organizational units, and not received by households, is associated positively with a country's per capita income--particularly if we exclude colonial areas. For 1938, the share is 6.6 percent in the high income countries and 6.3 percent in the low; for the more recent years, and excluding the colonies and the small units, the share changes from 10.1 percent to 6.8 percent. By contrast, the share of property income received by households (line 8) tends to be constant: for 1938, it declines slightly from 16.7 percent in the high income countries to 15.6 percent in the low; for the post-World War II years and all countries it fluctuates irregularly, but the percentages in columns 5 and 6 are not very different from that in column 3. When we exclude the colonies and small units, no decline in the share of property income of households emerges, with the level in column 9 of 10.2

Table 1.
Average Shares of Various Types of Income, Countries Grouped by Income per Capita, 1938 and Recent Post-World War II Years

	1938		Post-World War II Years						
			All Countries				Excluding Colonies and Small Units		
	I+II	III-VII	I	II+III	IV+V	VI+VII	I	II+III	IV-VII
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Percent of Allocated Income to National Income									
1. Number of countries	11	6	8	11	10	8	7	11	13
2. Arithmetic mean percentage	100.0	101.2	102.5	101.4	100.8	100.9	102.6	101.4	100.8
AVERAGE SHARES OF TYPES OF INCOME IN ALLOCATED TOTAL									
Compensation of Employees									
3. Number of countries	11	6	8	11	8	8	7	11	11
4. Arithmetic mean percentage	54.3	46.6	60.2	56.7	53.1	45.8	60.6	56.7	48.9
Income of Unincorp. Enterprises									
5. Number of countries	8	5	8	4	7	6	7	4	10
6. Arithmetic mean percentage	21.4	32.7	20.2	29.6	27.9	36.2	19.3	29.6	32.8
Property Income of Households									
7. Number of countries	6	5	7	5	7	5	6	5	9
8. Arithmetic mean percentage	16.7	15.6	10.2	6.0	10.4	9.3	10.8	6.0	10.2
Corporate Savings Excl. Taxes									

8. Arithmetic mean percentage	16.7	15.6	10.2	6.0	10.4	9.3	10.8	6.0	10.2
Corporate Savings Excl. Taxes									
9. Number of countries	6	6	7	7	8	7	6	7	10
10. Arithmetic mean percentage	2.9	2.5	3.5	2.2	4.8	5.2	3.85	2.2	3.4
Direct Taxes on Corporations									
11. Number of countries	6	4	7	10	9	8	6	10	12
12. Arithmetic mean percentage	1.6	3.0	5.0	2.7	2.2	4.05	4.5	2.7	2.1
Corporate Savings Incl. Taxes									
13. Number of countries	7	6	7	7	8	7	6	7	10
14. Arithmetic mean percentage	4.1	4.5	8.5	4.8	6.9	9.5	8.4	4.8	5.5
Government Income from Enterprise and Property									
15. Number of countries	7	5	6	10	7	7	5	10	9
16. Arithmetic mean percentage	2.5	1.8	1.6	1.5	1.3	2.0	1.7	1.3	1.3
Total Income from Assets									
17. Composite percentage share (8 + 14 + 16)	23.3	21.9	19.9	12.1	18.6	20.8	20.9	12.1	17.0
Total Allocated Income									
18. Composite percentage total (4 + 6 + 17)	99.0	101.2	100.3	98.4	99.6	102.8	99.9	98.4	98.7

Unless otherwise indicated, shares are unweighted arithmetic means of the shares for individual countries given in Appendix Table 6.

percent not being significantly different from that of 10.8 percent in column 7. With such constancy in the share of property income of households, whatever positive association exists in the post-World War II years between the share of total income from assets and per capita income (for countries excluding colonies and small units) is due exclusively to the movements in the share of gross savings of corporations and income of governments from property and enterprise.

Several of these findings will be discussed below. The most interesting is that relating to the share of income from assets; and before we consider the evidence of the interstate comparisons, it may be well to add direct information on this share for several countries not included in Table 1. For India we have a recent effort to approximate a distribution of the national income between income from assets and other components.[4] According to Mr. Patel's calculation the share of income from assets in India is 23.3 percent. Mr. Gulati's revision would bring the share down to 19.6 percent. Both exceed 17.0 percent, the average shown for groups IV to VII in column 9, line 17, and the inclusion of India would therefore reduce the range of the share of income from assets.

Another item of evidence can be found in some data for Mexico. Of net domestic product at factor cost, the share of profits (after allowance for imputed earnings of the self-employed), rent, and interest rose from 34.5 percent in 1939 to 47.4 percent in 1950.[5] This share of income from assets in total income can be accepted only with caution, pending a critical scrutiny of the detailed bases of the estimates not now available. But as the evidence stands, the inclusion of Mexico (which falls in group IV of our classification) would raise the share of income from assets in the national income for the less developed countries.

Finally, more as a matter of curiosity rather than in the hope of being able to include it in any meaningful comparison with other countries, I attempted to calculate the share of income from assets in the national income of the U.S.S.R. Here, of course, the income takes on different forms. Little property income is received by households. Most of it is retained by government corporations or government agencies, in general, and used to finance capital investment. Nevertheless, it is income that arises from command over assets; and curiously enough, the share, which amounts in two of the three peacetime years to between 18 and 19 percent, is not too different from what we find for the countries in the middle range of the array by per capita income in Table 1.

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4. Surendra J. Patel, "The Distribution of the National Income of India, 1950-51", The Indian Economic Review, Vol. III, No. 1, February 1956, pp. 1-12; and J. S. Gulati, "Agricultural Property Incomes in India", ibid., Vol. III, No. 2, August 1956, pp. 110-114.

5. The Economic Development of Mexico, Report of the Combined Mexican Working Party, published for the International Bank for Reconstruction and Development by the Johns Hopkins Press, Baltimore, 1953, Table 4, p. 1

6. For the detailed calculations see Appendix A, particularly Appendix Table 1.

B. Interstate Comparisons

In turning to the shares of various types of payment for the states in this country, we must remember that the reference here is to the structure of personal, not national, income. Hence, some components of income from assets, e.g., corporate savings (undistributed net profits) and profits of governments from property and enterprise, are omitted; and we are left with three types of payment--compensation of employees, income of unincorporated enterprises, and property income received by households. For years beginning with 1929, personal income also includes transfer payments from government and business (old-age and survivor benefits, pensions, direct relief and disability payments, bad debts, cash prizes from business, etc.) and personal contributions to social insurance--but this "other" income is too small to affect the distribution significantly.

The averages for groups of states classified by per capita income and based on the shares computed separately for each state, are given in Table 2 for selected years from 1919-21 to 1955. Our interest here is not in changes over time, but in the differences among shares as we move down the array of states by per capita income--particularly in relation to the findings for the international comparison in Table 1. The evidence can be briefly summarized.

i. The share of compensation of employees in personal income is positively associated with income per capita, being high in the high income states and low in the low income states. In the earlier years, 1919-21 and 1929, the range in the share is almost as wide as that in the international comparisons in Table 1--despite the much narrower range of income per capita among states than among nations.

ii. Again, as in the international comparisons, the share of income of unincorporated enterprises is negatively associated with per capita income--low in the high income states and high in the low income states. Furthermore, the relative range in all years, and even the absolute range in the earlier years (1919-21 and 1929), is fully as wide as in the international comparisons in Table 1. In short, just as in the major aspects of industrial structure, the interstate and international comparisons yield similar results--with the range of differences almost as wide in the former as in the latter despite the much narrower range of per capita income among states.

iii. It is in respect to the share of the property income of households that the findings for the interstate comparisons in Table 2 differ significantly from those for the international comparisons in Table 1. Here we find that the share declines substantially as we move from the high income to the low income states. This is true in each year covered. In the early years the range in the share from group I to group VI is quite wide, being about 2 to 1 in 1919-21, 1929, and 1940. Even in 1950 and 1955 the relative range is about a third of the level for group I, whereas in the international comparisons in Table 1 (see line 8) the decline in the share in the array of countries by per capita income was so slight that constancy of the share seemed the safest conclusion.

iv. The share of "other" income is negatively associated with income per capita, being low in the high income states and high in the low income states. In 1950 and 1955, when the average share of "other" income is fairly substantial

Table 2.
Average Shares of Types of Payment in Total Personal Income, States of the United States Grouped by Personal Income per Capita, Selected Years, 1919-21 to 1955

	Groups of States by Personal Income per Capita						Arithmetic Means I-VI (Unweighted)
	I	II	III	IV	V	VI	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Compensation of Employees							
1. 1919-21[a]	60.6	58.7	57.6	53.5	52.9	46.65	55.0
2. 1929	60.7	63.1	59.4	55.6	55.05	52.0	57.6
3. 1940	63.9	65.8	61.5	58.45	57.3	58.9	61.0
4. 1950	68.1	65.3	60.0	58.0	62.0	60.4	62.3
5. 1955	73.1	71.4	66.6	65.0	67.0	63.5	67.8
Entrepreneurial Income[b]							
6. 1919-21	19.2	21.1	27.4	30.5	31.9	41.5	28.6
7. 1929	12.1	14.3	21.4	27.0	28.6	33.9	22.9
8. 1940	12.3	15.9	19.7	24.5	27.2	28.1	21.3
9. 1950	12.8	17.25	22.85	24.55	20.2	22.8	20.1
10. 1955	10.2	12.0	15.9	18.4	18.2	21.95	16.1
Property Income of Households[b]							
11. 1919-21	20.3	20.1	14.9	16.0	15.2	11.8	16.4
12. 1929	25.9	21.1	17.2	15.45	14.7	12.3	17.8
13. 1940	21.0	15.1	14.9	13.5	11.8	10.1	14.4
14. 1950	15.0	12.2	11.9	11.7	11.4	9.2	11.9
15. 1955	13.6	12.3	13.0	12.2	10.0	9.3	11.7
Other Income[c]							
16. 1929	1.3	1.6	2.0	1.9	1.7	1.8	1.7
17. 1940	2.75	3.1	3.9	3.6	3.6	2.85	3.3
18. 1950	4.0	5.3	5.3	5.7	6.4	7.6	5.7
19. 1955	3.1	4.3	4.5	4.35	4.8	5.25	4.4

The data for 1919-21 are from Maurice Leven, Income in the Various States, National Bureau of Economic Research, 1925.
The data for 1929, 1940, 1950, and 1955 are from Charles F. Schwartz and Robert E. Graham, Jr., Personal Income by States since 1929, Supplement to the Survey of Current Business, Washington, 1956.

a. Includes income from urban cows, gardens, and poultry, which is less than 1% in most cases.
b. Rent on farm homes is included with entrepreneurial income.
c. Includes transfer payments (from government and business) and personal contributions for social insurance.

compared with the average share of property income of households, the negative correlation of the former with per capita income tends to offset the positive correlation of the latter. In 1955, particularly, the combined share of property and "other" income is fairly invariant, being less than 17 percent in group I and almost 15 percent in group VI.

The evidence in Tables 1 and 2 gives rise to a number of questions that can be discussed further. We deal first with the relation between per capita income and the share of income from assets (property income); then with the attempts that have been made to apportion the returns to unincorporated enterprises between income to labor and income to capital; then with the distribution of participation income between compensation of employees and entrepreneurial income (i.e., income of unincorporated enterprises); and finally with the distinction between wages and salaries.

C. The Determinants of the Share of Income from Assets

We found above that the share of the income from assets in national income (or allocated total) is either about the same among countries with different levels of per capita income; or shows only a moderate decline as we move from the high income, developed, to the low income, underdeveloped countries. We can infer from the evidence on the share of property income of households, in the comparison among states, that the share of income from assets (including corporate savings gross of taxes) would decline much more sharply as we move from the high to the low income states. Here we attempt to account for the behavior of the shares of income from assets and property income of households in the international comparison; and then suggest modifications in analysis that would account for the different findings in the interstate comparison.

One approach to the analysis of the share of income from assets is to view the share as a function of three variables: the ratio of income-yielding wealth to national income (R); the fraction of such wealth that is not represented by the equity of unincorporated enterprises, and the return on which is therefore not merged with other income in the total income of unincorporated enterprises (S); and the average rate of return on wealth other than the equity of unincorporated enterprises (Y). Having the values of these three variables, we can calculate the share of income from assets in national income. For example, if R is 6.0, S is 0.5, and Y is 0.06, the share of income from assets in national income would be the product of these three quantities, or 18 percent.

In approximating the magnitudes of these three variables for countries at different stages of development and with different per capita incomes, we can, in our present stage of knowledge, only speculate. Whatever data we have are scarce and subject to large error. They can be used only as illustrations, not as bases for firm conclusions. Nevertheless even a tentative attempt is worth while if it can suggest the rough order of magnitudes.

In estimating R, the ratio of total income-yielding wealth to national income, the denominator must necessarily be identical with that distributed between income from assets and participation income. The numerator should include not only reproducible capital but also land and other natural resources that are subject to ownership and can become sources of income; and allowance must be made for net indebtedness to foreign countries.[7]

7. Since income from assets includes royalties, some of which are yields on investment of capital embodied in human beings, the numerator of R should also include the latter. However, apart from the difficulties of estimating royalties, their weight is too small to warrant much attention. In the United States, net royalty earnings (continued on next page)

While this ratio shall be explored in further detail in a later paper in this series, which will deal with the capital formation components of national product, some preliminary suggestions can be made here. We would, in general, expect that the ratio of reproducible capital owned by the residents to the country's national income, would be lower in the low income, underdeveloped countries than in the high income, developed countries. Such reproducible capital is the result of cumulation of net domestic savings, which are an appreciably lower proportion of national income in the underdeveloped than in the developed areas. A rough estimate suggests that the ratio of net domestic savings to national income ranges from 3 percent for the Far East (excluding Japan) to 8 percent in Latin America, to well above 10 percent and closer to 15 percent for the developed countries.[8]

However, the effect of a lower net domestic savings proportion on the ratio of owned reproducible capital to national income in the less developed countries may be reduced by a lower rate of growth of national income. If in the Far East, where the net savings proportion was at most 5 percent, population grew at a rate of not more than say 1.5 percent per year, and per capita income was constant, a ratio of reproducible wealth to national income of 5/1.5 would be maintained. This level of 3.3 is not lower than that in many developed countries which have not only much higher proportions of net domestic savings to national income but also higher rates of growth of national income. If the national income of a developed country grows at double the rate of that of an underdeveloped country, and if the net domestic savings proportion in the former is twice that in the latter, the ratio of owned reproducible capital to national income would be the same in both.

But even if we assume that the ratio of owned reproducible capital to national income is significantly lower in the underdeveloped than in the developed countries, the inclusion of land would tend to equalize and perhaps even reverse the ratios for total wealth. Since agriculture plays a major part in the productive system of low income, underdeveloped countries, land must constitute a much larger share of total owned wealth than in developed countries. And this is certainly true of those underdeveloped areas where the growth of population under relatively unchanged conditions of productive technique has produced pressure on land and maintained its value at high levels.

The considerations just noted are supported by the data on the wealth/income ratios in a number of countries, assembled in Section 1 of Appendix B. These data are necessarily crude and, unfortunately, more abundant for earlier years (end of the 19th century and just before World War I) than for recent years. But they clearly indicate that: (i) the ratio of reproducible wealth to

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in 1950 were $0.56 billion (National Income, 1954 Edition, Supplement to the Survey of Current Business, Exhibit 1, p. 86). This is less than 0.3% of national income; and only a small part of it can be considered royalties from books, plays, musical compositions, patents, and similar products of human training and effort.

8. See the estimates for 1949 in Gerald M. Meier and Robert E. Baldwin, Economic Development: Theory, History, Policy, John Wiley and Sons, New York, 1957, Table 14.4, p. 305.

national income is higher in the developed than in the underdeveloped countries; and (ii) the inclusion of land offsets the difference so that there is a semblance of relative constancy of the total wealth/income ratio for countries with widely differing income per capita.[9] The tentative conclusion for present purposes is that R may be assumed to be about the same for high and low income countries--although it may be somewhat lower for the younger and more rapidly growing units within the developed and the underdeveloped areas.

For a proper estimate of S, the fraction of total wealth that is not the equity of unincorporated enterprises, we need data on the relative extent of land renting vs. land ownership and of borrowing by individual entrepreneurs from external sources--in short, full information on the institutional arrangements by which income-yielding wealth is managed in the productive process. No such data are easily at hand, and to collect them for the purpose of establishing some general order of magnitude would be a formidable task. We therefore rely on such impressions as are a matter of common knowledge.

The organizational forms of ownership of income-yielding wealth reflected in the categories subsumed under total income from assets in Table 1 are: government ownership and operation of real assets; corporate ownership and operation of real assets; holdings by households or corporations of debts of unincorporated enterprises (as claims against the incomes of the latter); and holdings of residential housing (since the net income from the latter is recorded under property income of households whether rented or owner-occupied). The one part of wealth whose yield does not appear under income from assets is the equity of unincorporated enterprises.[10]

We have some scattered information on the proportions of rented land and of land operated by owners and managers in the agricultural sector.[11] These

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9. These are broad conclusions, drawn in terms of wide groups of countries classified by income per capita. An important distinction, which emerges upon closer examination, is that among the developed countries (in groups I and II), the older units (i.e., those in Western Europe) tend to have a higher ratio of wealth to income than the younger units (i.e., the United States, Canada, and Australia); and among the underdeveloped countries, those with a greater pressure of population upon resources and with somewhat slower growth of total population and income are likely to have a higher wealth/income ratio than the younger units (e.g., in Latin America) with less pressure of population on resources and more rapid growth of population and total income. These differences must remain in the nature of suggestions, but further exploration would throw some light on their effect on the shares of income from assets in the national income of these subgroups among developed and underdeveloped countries.

10. Sometimes even rent paid on land is included under income of unincorporated enterprise, e.g., rent paid by one farmer to another farmer. This is the practice in the preparation of the estimates for the United States and may well be true of other countries.

11. The sources from which our conclusions are drawn include: FAO, Report on the 1950 World Census of Agriculture, Vol. I (continued on next page)

data show large differences in ratios among countries even within one and the same group distinguished by per capita income. Thus, for countries within group I the ratio of agricultural area rented is quite high for Great Britain and Belgium (well over two-thirds), about the middle of the range (over a third) in the United States, and rather moderate in Sweden and Switzerland (about a fifth). The same is true of countries in other per capita income groups; hence the averages are likely to be untypical, and to depend upon accidents of coverage. We are, therefore, forced to rely on a rough summary. If we include land operated by managers with land rented, on the assumption that it is largely in corporate hands and thus outside the equity of unincorporated enterprises, the proportions rented and managed are quite high in group I--close to 40 percent; drop down in groups II and III; but rise again in the underdeveloped countries, particularly those with great pressure of population upon land (where the share may be 60 percent or more for such units as Pakistan, India, or pre-revolutionary China but much lower in such areas as Cambodia and Burma). Offhand, I would be inclined to set this ratio of rented to total agricultural land in groups I and VII at 40 percent, but at lower levels in the intermediate groups.

The other factor in connection with the A sector is, of course, the ratio of productive debt to the value of land and other assets. We underscore productive because, in theory, debt incurred by farmers for consumption needs should be excluded. It is this distinction that makes it extremely difficult even to approximate the magnitudes in the underdeveloped areas where a large proportion of the debt of small farmers is not for productive purposes.[12] Nor do we have easily available data for the developed countries. For the United States, the ratio of liabilities to tangible assets, excluding land, in agriculture can be estimated to be 35 percent at the end of 1900, over 50 percent at the end of 1929, and about 20 percent at the end of 1949.[13] This suggests, if we disregard the unusually low level in the prosperous years after World War II, a proportion of liabilities to assets other than land not too different from the proportion of rented and managed land to total land in group I, in the neighborhood of 40 percent. Perhaps it is not unreasonable to assume that S for the A sector is about the same as the ratio for rented and managed land at both extremes of the range of countries by income per capita, say 0.4 for both groups I and VII.[14]

Rome, 1955; Kenneth H. Parsons, Raymond J. Penn, and Philip M. Raup, Land Tenure, Proceedings of the International Conference on Land Tenure and Related Problems in World Agriculture held at Madison, Wisconsin, 1951, Madison, 1956; W. S. and E. S. Woytinsky, World Population and Production, Twentieth Century Fund, 1953, in particular Table 223, p. 495. For longer-term records see Folke Dovring, Land and Labor in Europe, 1900-1950, The Hague, 1956.

12. See the brief discussion in Land Reform, Defects in Agrarian Structure as Obstacles to Economic Development, United Nations, Department of Economic Affairs, New York, 1951, pp. 40-41.

13. See Raymond W. Goldsmith and others, A Study of Saving in the United States, Vol. III, Princeton University Press, 1956, Table W-27, p. 75.

14. This is naturally a very broad assumption. For some developed countries, particularly the Scandinavian, where rent tenure is not widespread, S may be appreciably lower.

In contrast with this equality of S for the A sector in developed and underdeveloped countries, the wealth of the non-agricultural sectors in underdeveloped countries is largely in the hands of unincorporated enterprises (in which we should include a certain amount of lending just as we include rent in farm entrepreneurial income in the United States); while in the developed countries it is overwhelmingly either in corporate or government hands, or represents residential housing--in all of which cases returns on it would appear as income from assets and not as part of the "mixed" income of unincorporated enterprises. From the source cited in footnote 13 we can calculate that toward the end of 1949, of total real assets (excluding consumer durables and monetary metals) in the non-agricultural sectors of the United States, unincorporated business accounted for only 8 percent, the rest being in the hands of corporations, households, and governments (ibid., pp. 66-100). It is probably reasonable to assume an average of 15 percent for developed countries, thus yielding an S of 0.85 for the wealth of the non-A sector. The comparable fraction for the underdeveloped countries can only be guessed at, but the proportion of wealth in the non-agricultural sector that does not represent the equity of unincorporated enterprises is probably not more than a third, at the maximum.

With these assumptions for S in the A and non-A sectors in developed and underdeveloped countries, we can calculate the overall S. In developed countries, the share of the A sector in national income is, on the average, about 15 percent (see Paper II, Table 3, p. 10); and allowing a higher ratio of wealth (including land) to income in the A sector, we can set the proportion of wealth in that sector to total wealth at about 25 percent. The overall S for developed countries is then $[(0.25) \times (0.40)] + [(0.75) \times (0.85)]$, or 0.74. In the underdeveloped countries, the A sector accounts for about 45 percent of national income, and we can assume that the proportion of wealth in the A sector to total wealth is about 70 percent. The overall S for underdeveloped countries is then $[(0.70) \times (0.40)] \times [(0.30) \times (0.33)]$, or 0.38. Thus, roughly speaking, S is about twice as high in the developed as in the underdeveloped countries.[15]

We come last to Y, the yield rate on wealth other than the equity of unincorporated enterprises. The rate should be a weighted average that reflects the returns on capital represented not only by interest, dividends, and rent plus royalties (including actual and imputed net rent on residential housing) but also by savings of corporations (gross of taxes) and income of governments from

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15. Some confirmation of these rather tenuous computations is suggested by the calculation of S for the United States for selected dates between 1900 and 1955-56. Using again Dr. Goldsmith's balance sheets in the source cited in footnote 13, supplemented by the preliminary national balance sheet for the end of 1955 appearing in the Thirty-Seventh Annual Report of the National Bureau of Economic Research, New York, May 1957, Table 2, p. 36, we calculated S by relating the equity of farmers and unincorporated entrepreneurs to total tangible assets (excluding consumer durables). The derived S is 0.66 in 1900 and 1912, 0.75 in 1929, and with minor fluctuations ends up at 0.82 in 1955. Compared with 0.66 for the United States in 1900, an S of 0.38 for an underdeveloped country is not too low, and compared with 0.82 for the United States in 1955, an S of 0.74 for developed countries is not too high. For the calculations of S and Y for the United States see the discussion below in the section dealing with long-term trends.

property and entrepreneurship. Because of the diversity of these returns, no single, readily available rate of return is applicable: the average is certainly higher than the yield rate of high-grade bonds, and probably higher than the rate on prime mortgages or on high-grade common stock--but how much higher is a matter for speculation. A rough approximation of the rate may be secured for the United States by means of the estimates of wealth multiplied by S (taken from Dr. Goldsmith's balance sheets and referred to in footnote 15) and those of income from assets (property income payments to households plus gross savings of corporations, taken from the various series of national income estimates for this country). Division of the latter by the former presumably shows the average yield; and while the comparison is affected by the lack of continuity in the estimates of property income payments from 1900 to 1955-56, the suggested weighted yield rate in recent years is about 7 percent (7.7 percent around 1922, 6.7 percent around 1929, and 6.9 percent in 1955-56).

Whatever the Y for the developed countries, there is little question that in the underdeveloped countries, at least on assets other than the equity of unincorporated enterprises, it is much higher. In the references for India cited in footnote 4, Mr. Patel estimates an interest rate on farmers' debts of 20 percent; and even Mr. Gulati's more cautious approach results in a rate of 15 percent. Although it is true that the exorbitant interest rates often quoted for underdeveloped countries are gross, before allowing for deduction of expenses or bad debt, and are heavily weighted by loans for consumption, charges on liquid funds in underdeveloped countries are notoriously high. Even if we include, as we should, the possibly lower rates of yield reflected in the income of government enterprises and gross corporate savings, it seems reasonable to assume that the weighted yield rate in underdeveloped countries (group VII) is at least twice as high as that in developed countries (group I). If we set the latter at 7 percent, we may set the former at 14 percent.

We can now combine the results of the speculation. The ratio of total wealth to total national income, R, may be set between 4 and 5 to 1--closer to the lower figure for such countries as the United States, closer to the higher figure for the older developed countries--and, in accordance with our previous discussion, we assume that R is the same for developed and underdeveloped countries.

Assuming an R of 4.0, the share of income from assets in total national income in developed countries should be: (4.0) x (0.74) x (0.07), or 20.7 percent. In underdeveloped countries, the share should be: (4.0) x (0.38) x (0.14), or 21.3 percent. Assuming an R of 5.0, the share for developed countries becomes 25.0 percent, and that for underdeveloped, 26.6 percent.

Any more realistic analysis would require a more thorough study of the conditions that set the magnitudes of R, S, and Y; and the specific shares derived above are clearly subject to modifications in the sense that further study might well lead us to change the comparative values of R, S, and Y for developed and underdeveloped countries. Yet the point of this tentative analysis is to suggest that the rough equality of, or the very moderate differences in, the proportions of income from assets in national income in the developed and underdeveloped countries may be explained in terms of a rough equality of the ratios of total wealth to national income, and of the opposite effects of differences between the two types of countries in the ratio of wealth other than the equity of unincorporated enterprises to income, and in the yields on such wealth. In the developed

countries the share of income from assets is raised by the high ratio of wealth other than the equity of unincorporated enterprises to income, and depressed by the low yields on such wealth. In the underdeveloped countries, the share of income from assets is depressed by the low ratio of wealth other than the equity of unincorporated enterprises to income, and raised by the high yield on such wealth.[16]

Let us assume now either rough equality of the shares of income from all assets in the national income of developed and of less developed countries, or only a moderate excess of the share in the former over that in the latter. Given the obviously greater weight of corporations within the total activity of the developed countries (and excluding colonies among the underdeveloped), it must follow, other conditions being equal, that undistributed profits of corporations, gross of taxes, would constitute a larger proportion of national income in the high income, developed than in the low income, underdeveloped countries. No similarly firm hypothesis can be entertained concerning the share in national income of government returns from enterprise and property; but, in any case, except in the authoritarian countries, this component is too small to have much effect. It follows that the share in national income of corporate undistributed profits, gross of taxes, and government income from enterprise and property would be larger in the developed than in the underdeveloped countries. Hence, if the share of income from assets in national income is only moderately lower in the underdeveloped than in the developed countries, the share of property income of households (a residual obtained by subtracting from the share of income from all assets the share of gross savings of corporations and government income from enterprise and property) may well be the same for countries differing in per capita income--a finding suggested by Table 1.

We turn now to the rather different results of the interstate comparisons. For the latter we found that the share of property income of households in personal income did decline significantly as we moved down the array of states by income per capita--as contrasted with the constancy of the share of property income of households in international comparison. As a result, the share of all income from assets in total income would show a much more appreciable variation in response to differences in income per capita for the states than is true of the international comparison in Table 1. In terms of our earlier analysis this different result for interstate comparisons can best be traced to a different combination of $\underline{R}$, $\underline{S}$, and $\underline{Y}$.

Some direct information on the value of $\underline{R}$, in this case the ratio of total wealth either located or owned, to personal income by states, is given in Section 2 of Appendix B. Appendix Table 5, which summarizes the data, suggests that, unlike the case in the international comparisons, there is a tendency for $\underline{R}$ (for owned wealth) to be higher in the high income states than in the low. If this

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16. In the analysis above no mention was made of the basis of valuation of the magnitudes involved. This point would be of some importance in an analysis of changes over time; but even then, at least in the theoretical model, $\underline{R}$, $\underline{S}$, and $\underline{Y}$ could be so defined that the share of income from assets in national income could be determined in either current or constant prices. In the present connection, the problem of price differentials does not arise, except in the valuation of land in the underdeveloped areas, a point commented upon in the text.

evidence can be trusted, it provides one point in the explanation of our different findings for the interstate comparisons: a positive association between R for owned wealth and per capita income would, all other conditions being equal (i.e., S and Y permitting), mean a positive association between the share of income from assets and per capita income. But the difficulty is that the distribution of non-agricultural wealth owned by states was based upon property income receipts by states; and when property income is low relative to other income, the result may be a low ratio of owned wealth (as estimated) to total income. There is thus an element of circular reasoning in the derivation of R by states, where it is the ratio of wealth owned to total income. It may well be that independent estimates would confirm the evidence in Appendix Table 5, but for the present we cannot use it as an independent supporting item. It may be true that R, for wealth owned, is positively associated with per capita income by states, and some general reasons may be given for this expectation. The basic reason is that within a country, in contrast to relations among countries, borrowing and lending are far easier, and the proportions of outside net borrowing or lending to state located tangible wealth are likely to be far greater than similar proportions in international comparisons. This being the case, and the richer states being the ones in which more funds for such out-of-state lending are accumulated, the ratio of wealth owned to total income is likely to be higher in these richer, more developed states, than in those less developed. This hypothesis would explain both the positive association between R for owned wealth and per capita income by states and the lack of such association between R for wealth located and per capita income. But this is only a conjecture.

As far as S, the ratio of income-yielding wealth other than the equity of entrepreneurs, is concerned, one may assume no great difference between the international and interstate comparisons. We saw in Paper III of this series that with respect to industrial structure, particularly in the share of the A and other sectors, differences were just as wide among states as among countries. The low income, less developed states, in addition to having much higher shares of the A sector, would also tend to have larger proportions of the other sectors outside of the corporate form of organization--and some evidence is provided in Tables 4 and 5 below. All of this suggests that differences in S are likely to be wide among the states, and in the same positive association with per capita income as among the countries. The range is perhaps not as wide as that between 0.74 and 0.38 suggested above for international comparisons, but it is not likely to be much narrower.

Still in the realm of conjectures, I am inclined to place the major difference in Y, the average rate of return on income-yielding wealth other than the equity of entrepreneurs. In the international comparison, we assumed a range of one to two, perhaps rather moderate, between a Y of 7 percent for the developed countries and one of 14 percent for the underdeveloped areas. No such contrast should be expected among states, since a developed set of countrywide financial institutions should mean far narrower regional disparities in the cost of liquid funds than those among separate countries with vastly different levels of financial development. The effect of such a difference on illustrative calculations similar to those made above can easily be shown. Assume that the R and S values for interstate comparisons are the same as they were for the international comparison above, but that Y is changed to 0.06 for the high income states and 0.08 for the low income states. Then, for R = 4, the derived share of income from assets would be 17.8 percent for the high income states and 12.2 percent for the

low income states; for R = 5, the two percentages would be 22.2 and 15.2. The range in the illustration is in the same direction as the findings in Table 2 and not much smaller than that for the recent years.

It hardly needs to be stressed that the analysis above is on the level of reasonable conjectures, rather than of convincing and thorough proof. But besides having suggestive value in pushing the explanation of the findings one step ahead, it directs our attention to the social and economic structures that lie behind the differences in the share of income from assets in the total income of countries or of states: to R, a function of both the industrial structure and the rate of accumulation and appropriation; to S, which reflects the structure of ownership of the various sectors as well as the debt-credit relations among them; to Y, which mirrors so clearly differences in the yield and cost of assets, themselves reflective of differences in the pressure of demand upon supply and of the degrees of risk involved. Given more time and effort on the accumulation of data, the rough analysis presented here can be pushed much further and yield more illuminating results. It is advanced here not only for what it can yield in this first approximate review of the data, but even more for what it indicates in the way of possibly fruitful further work.

D. The Allocation of Entrepreneurial Income between Labor and Property

In the search for a more complete factoral distribution of income there have been numerous attempts to reduce the "mixed" category of income of unincorporated enterprises to its "pure" components. Since entrepreneurs, unlike the recipients of wages and salaries or of "pure" property income (such as rent, interest, and dividends), draw their income both from employment of their capital and from direct labor services, it seems logical to allocate their income between the two components (or three, if land is distinguished from other capital). Several of these attempts may be briefly noted without aiming at an exhaustive listing.

In The National Income and Its Purchasing Power (National Bureau of Economic Research, 1930), W. I. King has two "hypothetical apportionments of the agricultural income of farmers" (see Table C, p. 312). In one, the property investment of farmers is assigned a rate of return of 5.5 percent, and the "income ascribable to efforts of farmers and members of family" is derived by subtracting the interest return on property from total income of farmers from agriculture. In the other, the labor services of farmers and their families are estimated by multiplying the number of farmers by 1.5 times the average wage of hired men; and the return on property is derived as a residual. In the first calculation, the total return on property over the nineteen years covered (1909-27) amounts to $33.3 billion out of $86.0 billion of farmers' total income from agriculture, or 39 percent; in the second calculation, the farmers' "labor" income amounts to $89.0 billion, thus leaving a net loss on property of $3.0 billion.

In "The Share of Capital in National Income", Social Research, Vol. 10, No. 4, November 1943, pp. 436-454, Julius Wyler attempts a breakdown of entrepreneurial income between shares of labor and capital for the United States, United Kingdom, and Germany for 1929 and 1937 (1938 for the United Kingdom). Stating that "any breakdown of these figures is arbitrary" (p. 441), Wyler imputes in 1929 the share of capital as follows: "farming, 5 percent plus rental

value of dwellings, for all three countries; other industries, 15 percent for Germany and 10 percent for the Anglo-Saxon countries... The changes during the period ending 1937-38 have been attributed to the two factors of production in accordance with the special circumstances in each country" (p. 441). The results are rather surprising. For the United States, in which total entrepreneurial income is shown as 17 percent of national income in 1929, only 1.5 percentage points, or less than a tenth, are shifted to capital; and the relative weight of the capital component in entrepreneurial income is even slighter in 1937. A similarly negligible weight is attributed to the capital component in the entrepreneurial income of the United Kingdom. Only in Germany is the return on capital as much as 15 percent of entrepreneurial income in 1929 and about 20 percent in 1937.

In his first paper on the subject, "Allocation of Agricultural Income", Journal of Farm Economics, Vol. XXX, No. 4, November 1948, pp. 724-749, D. Gale Johnson uses three methods to allocate the income of farmers between returns on land and capital, on the one hand, and returns to labor, on the other. The first two methods (A and B) estimate directly the return on property, and differ only with respect to the calculation of the return on land: in method A the latter is derived by extending the total net rent on rented land to include all land, assuming identical ratios of rent to value for both rented and other land; in method B, return to land was calculated by multiplying the annual average rate of interest on farm mortgages by the estimated value of farm real estate. In both methods A and B the return on other capital was derived by multiplying the value of non-real estate inventories (livestock and crops) by an estimated rate of interest, which varied from 5 to 6 percent. In method C all farmers and family workers were assigned the wages of hired workers, and the return on capital was derived as a residual.

The estimates cover the period 1910-46. By method A the return on land and other capital accounts for between 33 and 45 percent of total farm income. By method B the changes over time in the percentage share of return on capital are far more pronounced, with a distinct downward trend from over 50 percent in 1910-16 to less than 20 percent in 1942-46. Method C yields lower returns to capital than even method A (in nineteen of the thirty-seven years); but the relative differences are not as striking as in King's calculation.

In his second paper on the subject, "The Functional Distribution of Income in the United States, 1850-1952", The Review of Economics and Statistics, Vol. XXXVI, No. 2, May 1954, pp. 175-182, Johnson extends the allocation to all entrepreneurial income within the country. Taking over the allocation for farmers' income from the earlier paper (following method A essentially), he assumes, on the basis of comparison with data on manufacturing corporations, that the "share of nonfarm entrepreneurial income attributable to labor is 65 percent" (p. 177). As a result between a third and 45 percent of total entrepreneurial income for the country is classified as return to capital (see Table 1, p. 178 for 1900-52); and total property income, including corporate profits, accounts in the pre-1930 decades for about 30 percent of national income, dropping down to about 25 percent in 1947-52.

In Agriculture and Industry Relative Income, London, 1956, J. R. Bellerby estimates what he calls "incentive income" of farmers for a number of countries. Incentive income is derived by deducting from total net income of farmers

an allowance for rent on land and interest on capital--both being imputed from the total value of land and capital held by farmers. This estimate of the capital component of farm income is rather conventional. Thus, in the case of Canada interest on equipment and livestock is calculated at the yield of government bonds plus 1 percent; and net rent on land and farm buildings (other than dwellings) at the rate of interest on long-term bonds (see p. 99).

Our last illustration refers to an implicit, rather than an explicit, allocation of entrepreneurial income between returns to labor and to capital. In the third edition of Conditions of Economic Progress, London, 1957, Colin Clark calculates the share of labor in the non-agricultural income of a number of countries by assigning to the employers and independent workers as remuneration for their direct services (as distinct from the returns on their capital) an income "equal to the average per head earnings of the whole body of wage and salary earners" (p. 616). If the total entrepreneurial income in the non-agricultural sectors of the economy were also given, it would be possible to derive by subtraction the implicit return on capital.

Two broad observations are suggested by this incomplete recital of attempts to allocate the total income of unincorporated enterprises between returns to capital or property, and returns to labor. The first is that entrepreneurial incomes are not the only "mixed" category; and that, therefore, such attempts should logically be carried further. Even the total now classified under "pure" property incomes contains some labor service elements: e.g., net rent, particularly that originating in housing, covers some entrepreneurial services. The estimate is usually obtained by deducting from gross rent the actual expense outlays plus depreciation--just as is done in the case of income of farmers and shopkeepers. Yet the residual is more than interest on the equity of the houseowner, since it includes compensation for whatever direct services a landlord renders in acting as an entrepreneur and in this respect is quite different from interest on bonds and corporate dividends.

A far more important case of "mixture" is compensation of employees. The point here is not the inclusion of the pay of corporation executives and high officials in any organization only because of their formal status as employees. More important, many recipients of "labor" income derive fairly high returns because of a sizeable investment, made by them or society (via free public schools) in their education and training or because of some advantageous, quasi-monopoly position; and in both respects a substantial part of their income is the same as return on property--viewed as income either on past outlay on or appropriation of resources, or on a strategically advantageous position within the economy, or both. The weight of this property return component of "labor" income in total national income can be substantial. Thus sample data for the United States show that median earnings of employed men with less than 8 years of elementary schooling are less than half of median earnings of men of the same ages with a college education of 4 years or more; whereas the median earnings of men with 4 years of high school is about 80 percent higher than that of men with elementary school training of less than 8 years.[17] Assume for the purpose of illustration that the average educational level of the labor force in the United States is represented

17. See Herman P. Miller, Income of the American People, John Wiley and Sons, New York, 1955, Table 25, p. 54.

by completion of 4 years of high school (to offset the proportion with less education by the proportion with more). On this assumption, using median earnings, and attributing any excess of earnings above the under 8 years of elementary schooling level to investment in education, training, etc., we can conclude that of total compensation of employees, 80 out of 180, or well over 40 percent, is a return on investment--not on "pure" labor. And since median earnings obviously understate the differentials, compared with arithmetic means, it is not too far-fetched to say that about half of the total compensation of employees in a country like the United States may well be return on investment--this time in human beings. With the share of compensation of employees in national income reaching in recent years well over two-thirds, we would be shifting at least 30 percent of national income to the category of return on investment or property--thus raising the total share of income from assets (including that allocated from entrepreneurial income) from over a quarter to well over a half. Of course, this estimate is based on the assumption that the excess of earnings is attributed to education alone, whereas it may be due in part to other factors associated with education but not dependent on it. If this is true, the suggested figure overstates the yield of education proper.

This point has bearing upon long-term trends in factor shares, which we shall discuss below. Here its implication for the comparison between developed and underdeveloped countries may be noted. In the former, the investment in training and skill of the labor force is proportionately greater than in the latter, and this differential is only partially offset by the greater relative excess of per worker compensation of educated and skilled labor over that of uneducated and unskilled in the underdeveloped areas. It follows that the property component of compensation of employees is proportionately larger in the more developed countries; and the estimates following the present line of analysis would show, on that account, much greater shares of property income in the developed than in the underdeveloped countries.

The second general observation is suggested by the contradictory results of the two methods of allocating entrepreneurial income--one which estimates the return on property directly and derives the labor component as a residual; and the other which estimates the return on labor directly, and derives the property component as a residual. Even for United States agriculture, in which the market for properties is well developed and in which many farm entrepreneurs can shift their capital and labor services if the reasons are good enough, a direct estimate of the return on the property component leaves a return on labor that is below the going wages of hired labor; and a direct estimate of the return on labor leaves a return on property distinctly below any comparable market return rate. But the point becomes particularly striking if we attempt an illustrative calculation for underdeveloped countries, using the rough parameters that were employed in the discussion of determinants of the share of income from assets.

We assumed that Y, the net yield, for underdeveloped countries is 14 percent and that R is 5.0, which, including land, is a fairly realistic ratio for underdeveloped countries. We also assumed that S, the ratio of income-yielding wealth other than the equity of unincorporated enterprises, is 0.38. This means that the equity of entrepreneurs is 0.62 of total income-yielding wealth, and its ratio to national income is 3.0 (i.e., 0.62 x 5.0). If we impute a 14 percent yield to it, the property income of entrepreneurs should be 43.4 percent of national income (i.e., 3.1 x 14 percent). Looking back to Table 1, we find that the total

income of unincorporated enterprises in the underdeveloped countries is less than 40 percent. This means that the calculated property return to entrepreneurs absorbs all of their income, leaving nothing for their labor services. Yet the great majority are farmers, handicraftsmen, and other workers who spend most of their time in backbreaking labor.

Consider now the results of the alternative approach. It will be shown in Table 3 below that, excluding family labor, the entrepreneurs and self-employed constitute well over 40 percent of the total labor force (43.4, to be exact) in the underdeveloped countries. Assume for the purposes of calculation that the labor component of entrepreneurial income should be estimated by assigning to each entrepreneur or self-employed the average compensation of employees (including both the A and the other sectors). According to Table 1 in the less developed countries (excluding colonies and small units, col. 9), the share of compensation of employees is 48.9 percent; this means that the "labor" component of the income of entrepreneurs should be (48.9%) x (0.434/0.566), or 37.5 percent. In the same table the total income of unincorporated enterprises accounts for 32.8 percent of national income. This leaves less than nothing for the property return component of entrepreneurial income in the underdeveloped countries; and we must conclude that their capital, as distinct from that outside their equity which yields a handsome return of 14 percent, yields no return, while in fact the compensation for their labor is less than that of employees.

The contradiction between the results of the two approaches in the allocation of entrepreneurial income in the underdeveloped countries is probably exaggerated; and yet the parameters are realistic enough for the analysis to be significantly relevant to the existing situation in many sectors of the underdeveloped and in some of the developed countries. In the former, in both agriculture and the household branches of non-agricultural industries, the equity is held onto, despite low or zero returns, because possession of land, or of a few tools, or of a small commodity inventory means a larger income than could be secured by reliance on employment alone. And even in the developed countries, at certain levels of farming (close to subsistence) and retail trading, equity in capital is maintained because there is little assurance that without it an equivalent income could be secured by means of the proceeds of liquidation and a job on the free employment market.

One obvious implication of such a situation should be noted. If it exists, there are two different markets for capital goods: in one the capital funds are relatively free to seek the highest return, and it is on this market that a $\underline{Y}$ of 0.14 in the underdeveloped countries can be realistically assumed; the other is a market for capital goods that are closely tied to the way of making a living, by combination with some specific type of labor services. The mobility of this type of capital goods is low, and the market for it tends to be a distress market--the goods becoming available for sale when, due to some untoward event, their tie to the productive services is dissolved. The specific returns assignable to such capital goods are largely a matter of convention, but they are clearly below those assigned to freely moving capital funds. A similar dichotomy can be said to exist on the labor market: in contrast with labor resources available without regard to attachment to some equity in capital stock, there are the labor services of entrepreneurs deliverable only jointly with the services of their capital stock. In many cases, the intrinsic quality of such entrepreneurs as workers may be inferior to that of the prime labor force; e.g., many aged workers in this country

open small retail shops with accumulated savings. In other cases, their highly specialized skills may limit the employment opportunities in the free market. In underdeveloped countries many persons may be entrepreneurs only because they cannot find employment even at the prevailing low rates of compensation and are forced to eke out an even smaller income by peddling a few goods or services, a point stressed by Simon Rottenberg in "Note on Economic Progress and Occupational Distribution", Review of Economics and Statistics, May 1953, Vol. XXXV, No. 2, pp. 168-170. It may therefore be argued that for a substantial proportion of the entrepreneurial group any defensible estimate of the value of their labor services must be lower than the per unit rates of compensation for the full-time, primary labor force, in the free employment market. To that extent there is some economic rationale in the contradictory results yielded by the two approaches in the allocation of income of unincorporated enterprises: the market rates of return on both capital and labor are too high. Lower rates of return would be more realistic approximations to the situation, and would obviously serve to remove the contradiction between the results of the two estimations.

E. Entrepreneurial Income and Compensation of Employees

We saw in Table 1 that the share of entrepreneurial income in the total is negatively associated with per capita income, being lower in high income countries than in low income countries. Participation income (i.e., the sum of compensation of employees, including other labor income, and entrepreneurial income) is a large fraction of national income that varies only moderately with differences in per capita income. Hence, the share of entrepreneurial income in participation income should also be negatively associated with per capita income, and it is. The share of entrepreneurial income rises from a quarter in group I to almost a half in groups V, VI, and VII (Table 3, line 1). The share of compensation of employees, the other component, therefore declines from about three-quarters of participation income in the developed countries to somewhat over a half in the underdeveloped countries.

The new information in Table 3 relates to the shares in the labor force. We would expect the share of entrepreneurs in the labor force, like their share in participation income, to be lower in the high income countries than in the low income countries; and this is what we find (line 2). The share rises from about a fifth of the labor force (excluding unpaid family labor) in group I to over two-fifths in groups V, VI, and VII, and the share of employees declines correspondingly from over 80 to less than 60 percent. But when we distinguish between the agricultural and non-agricultural sectors, some new results emerge. The share of entrepreneurs in the agricultural labor force is somewhat higher in the high income countries (63 percent) than in the low income countries (57 percent), although the differences are minor (line 3). Apparently, in many economically developed countries, individual entrepreneurs still dominate the agricultural sector; and in some underdeveloped countries there must be large agricultural enterprises with a high ratio of employees to entrepreneurs (the plantation sector). The share of entrepreneurs in the labor force is much lower in the non-agricultural part of the economy than in agriculture; and it rises markedly as we move down the scale of income per capita (line 4). Clearly, the association between the share of entrepreneurs in total labor force and per capita income is negative because, with the decline in per capita income (i) the weight of the

agricultural sector, with its above average share of entrepreneurs, increases, and (ii) the share of entrepreneurs within the non-agricultural sector rises. Probably, the same is true of the share of entrepreneurial income in participation income, but no data are available for the various countries to test this suggestion.

While the share of entrepreneurs in the labor force for all non-agricultural sectors increases markedly as we move down the scale of income per capita, the shares for some subdivisions (e.g., construction and services) change only slightly (lines 5-9). Here again, the movement of the share of entrepreneurs in the aggregate reflects not only the movements in the shares of the components, but also the increasing weight of those in which the share is above the average (particularly commerce).

For a few countries, we have the distributions of both participation income and the labor force between entrepreneurs and employees and can calculate the income per entrepreneur and per employee relative to countrywide participation income per member of the labor force (lines 13-15). We find an intriguing positive association between the relative income per entrepreneur and per capita income: it is high in the high income countries and declines as we move down to the low income countries, ranging from 1.30 in group I to 1.00 in groups V, VI, and VII. There is some evidence of negative association between relative income per employee and income per capita--the measure rising from 0.9 in group I to 1.0 in groups V, VI, and VII; but the range is narrow and the movement is not sustained. The spread, or the ratio of income per entrepreneur to income per employee, is positively associated with per capita income--declining from 1.41 in group I to 1.00 in groups V, VI, and VII. Thus, in contrast with the increasing divergence in relative income per worker among the various industrial sectors as we move down the scale of income per capita, we find decreasing divergence in the relative income of entrepreneurs and employees.

However, the indication in Table 3 of narrowing spread between income per entrepreneur and income per employee as we move down the scale of countries by income per capita, should not be attributed much significance. First, only four countries are covered in groups V-VII and only five in groups II-IV. Second, Appendix Table 8 reveals wide variations in the ratio of income per entrepreneur to income per employee among the individual countries, even within group I, let alone in the wider and more heterogeneous groups; and of the four countries included in groups V-VII, none belongs to group VII and three are small Latin American republics that may not be typical of the larger underdeveloped countries. Finally, the estimates for India, from the sources cited in footnote 4, suggest a ratio of income per entrepreneur to income per employee of either 1.47 or 1.60--appreciably higher than any shown in line 15.

Perhaps more important is the inference provided by a simple analysis of the determinants of the countrywide ratio of income per entrepreneur to income per employee. This analysis, presented in Appendix C, need not be discussed in detail here. Suffice it to say that if we distinguish two sectors in an economy, the agricultural and the non-agricultural, the countrywide ratio of income per entrepreneur to income per employee is determined by six variables: s--the share of the A sector in total labor force; c--the relative income per worker in the A sector; p--the proportion of entrepreneurs among all workers in the A sector; t--the proportion of entrepreneurs among all workers in the non-A sector; w--the ratio of income per entrepreneur to income per employee in the A sector; and

Table 3.
Average Shares of Entrepreneurial Income in Participation Income and of Entrepreneurs in Labor Force, Groups of Countries by Income per Capita, Post-World War II Years

	Groups of Countries by Income per Capita					
	I		II+III+IV		V+VI+VII	
	No. of Countries (1)	Avg. % Share (2)	No. of Countries (3)	Avg. % Share (4)	No. of Countries (5)	Avg. % Share (6)
1. Share of entrepreneurial income in participation income	8	23.9	7	33.1	8	42.9
Share of Entrepreneurs in Labor Force						
2. Total	8	18.6	23	32.4	13	43.4
3. Agricultural	8	62.8	22	55.6	12	56.6
4. Non-agricultural	8	11.6	22	21.1	12	30.0
5. Mining and manufacturing	8	7.6	21	20.5	12	36.7
6. Construction	8	16.4	20	14.2	11	18.1
7. Commerce	8	22.8	22	44.8	12	65.2
8. Transportation and communication	8	6.8	22	16.0	11	20.0
9. Services	8	11.1	22	11.7	12	12.0

Distribution of Entrepreneurs and Employees between

8. Transportation and communication						
9. Services	8	11.1	22	11.7	12	12.0
Distribution of Entrepreneurs and Employees between Agriculture and Non-Agriculture						
10. Share of agricultural labor force in total	8	13.2	22	34.6	12	51.4
11. Share of agricultural entrepreneurs in total		44.6		59.4		67.0
12. Share of agricultural employees in total		6.0		22.7		39.4
Income per Entrepreneur and Employee Expressed as Relatives of Participation Income per Worker						
13. Income per entrepreneur	8	1.30	5	1.17	4	1.00
14. Income per employee	8	0.94	5	1.07	4	1.00
15. Ratio, income per entrepreneur to income per employee	8	1.41	5	1.35	4	1.00

Source: Appendix Tables 6-8.

Line 1: Averages for five or six post-World War II years, usually 1952-56. No Communist countries are included.

Lines 2-12: Based on labor force, excluding unpaid family labor, and in most cases on data for a single census year after World War II. Furthermore, in all lines, except 5-9, labor force excludes persons with status unknown. In lines 5-9 the latter are included with employees in the respective branches. Since lines 11 and 12 are derived directly from the averages in lines 2, 3, and 10, the number of countries is not given.

Lines 13-15: Arithmetic means of relatives and ratios derived for each country separately.

$\underline{y}$--the ratio of income per entrepreneur to income per employee in the non-A sector. In all cases, income is limited to participation income. We can use the following values for group I: $\underline{s}$ = 0.14 (from Table 10, p. 23 of Paper II in this series); $\underline{c}$ = 0.92 (from Table 16, p. 36, of Paper II); $\underline{p}$ = 0.63 (from Table 3, line 3, column 2); $\underline{t}$ = 0.12 (from Table 3, line 4, column 2); $\underline{w}$ = 2.2 and $\underline{y}$ = 1.5 (values suggested by the state data for the United States in Table 4 below); and calculate the countrywide ratio of income per entrepreneur to income per employee--which works out to be 1.41, precisely the same as that shown in Table 3, line 15, column 2. For groups V, VI, and VII we can use the following values of the six determinants (from the sources given above): $\underline{s}$ = 0.56; $\underline{c}$ = 0.80; $\underline{p}$ = 0.57; $\underline{t}$ = 0.30; $\underline{w}$ = 2.2; and $\underline{y}$ = 1.5. The calculated countrywide ratio of income per entrepreneur to income per employee is then 1.48--much higher than 1.0 as given in Table 3, line 15, column 6; and only with unreasonably low values of $\underline{w}$ and $\underline{y}$ is a ratio of 1.0 possible. The discussion in Appendix C indicates that there are no grounds for assuming that the countrywide ratio of income per entrepreneur to income per employee is significantly lower (or higher) in the underdeveloped than in the developed countries.

One basic reason why no significant international differences in the countrywide ratio of income per entrepreneur to income per employee can be expected, at least on the basis of our limited knowledge, is that both the numerator and denominator of that ratio are weighted averages of per capita incomes that differ widely among the various sectors within an economy. Thus, as already indicated, the ratio of income per entrepreneur to income per employee for the A sector in a country like the United States is about 2.2, for the non-A sector it is closer to 1.5, and, as subsequent discussion reveals, within the non-A sector it varies from one subdivision to another from well over 3 to close to 1. Likewise, as was amply demonstrated in Papers II and III in this series, there are wide differences in total or participation income per worker among the various sectors of an economy. Because of these wide differences in income level within the group of entrepreneurs and within the group of employees and because of the resultant wide differences in the ratio of income per entrepreneur to income per employee among the different sectors, little meaning can be attached to the countrywide ratio of income per entrepreneur to income per employee.

While these preliminary conclusions reduce in advance the value of the comparisons of entrepreneurial and employee income by states in the United States the latter do at least illustrate and corroborate them. Comparisons among states can be made for the wider industrial sectors for two years, 1919-21 and 1950, and for more detailed industry groups for 1950 alone.

In order to condense detail, we distinguish only three, rather than six, groups of states classified by total personal income per capita. The shares of entrepreneurs in participation income and in the labor force, for each state as a whole, show the same association with per capita income as in the international comparisons (Table 4). Here also, the shares increase as we move down the scale by per capita income (lines 1 and 2); here also, the relative income per entrepreneur declines as we move from the high income to the low income states (line 3); and there is even some tendency for the relative income per employee to rise with the decline in per capita income, although as in the international comparisons, the range of differences is narrow and the association is not marked (line 4). Finally, as in Table 3, the ratio of income per entrepreneur to income per employee is positively associated with per capita income, being higher in the

high income states than in the low income states (line 5). These associations for the states are observed in both years, although the range of differences is wider in 1919-21 than in 1950.

For the states we can observe the movement of the shares within the agricultural and non-agricultural sectors separately. In the former, the share of entrepreneurial income in participation income rises as we move down the scale of income per capita (line 6). The same negative association with state income per capita is observed in the share of entrepreneurs in the total labor force attached to the A sector, as distinct from the constancy of that share in Table 3 (line 7). The income per entrepreneur and per employee in the A sector, expressed in relatives of the statewide participation income per worker, decline as we move from the high to the low income states. But the ratio of income per entrepreneur to income per employee shows no clear association with income per capita: the ratio in 1919-21 rises from groups I and II to groups V and VI, whereas in 1950 it declines. The interesting aspect of this finding is that in 1919-21, the ratio of income per entrepreneur to income per employee, for each state as a whole, declines as we move from column 1 to column 3; whereas within the A sector no such decline occurs.

In the non-agricultural sector, there is only a slight rise in the shares of entrepreneurs in participation income and in labor force as we move down the scale of income per capita (lines 11 and 12); and this finding is different from that in international comparisons, where the rise in the share of entrepreneurs in labor force, in negative association with income per worker, was far more conspicuous. The income per entrepreneur and per employee, both as relatives of statewide participation income per worker, rise as we move from the high to the low income states. But in 1919-21, the ratio of income per entrepreneur to income per employee in the non-A sector is about the same for the three groups of states; and in 1950, it rises as we move from the high to the low income states (line 15).

The analysis in Table 4, including lines 16-18, demonstrates that the ratio of income per entrepreneur to income per employee, for all sectors combined, can decline as we move down the scale of per capita income; and at the same time within the A and the non-A sectors separately the same ratio can show no change or even rise. The share of the A sector among entrepreneurs increases as we move from the high to the low income states, and the increase is greater than that in the share of the A sector among the employees: thus in groups I and II in 1919-21 the difference between lines 17 and 18 is less than 40 percent while in groups V and VI it is almost 60 percent; the analogous differences in 1950 are less than 30 and more than 50 percent. With the generally lower per worker income in the A sector, the increasing weight of the latter among entrepreneurs causes the income per entrepreneur to drop more relatively in the low income states than in the high. The second contributing factor is the appreciable decline in the ratio of income per worker in the A sector to income per worker in the non-A sector as we move down the scale of income per capita. Hence, even if the proportions of the A sector among the entrepreneurs and among the employees had remained the same, or changed equally, among groups of states classified by per capita income, there would still have been a convergence between statewide income per entrepreneur and income per employee with movement down the scale of per capita income (see discussion in Appendix C of the effects of variations in c, relative income per worker in the A sector, on the countrywide ratio of income per entrepreneur to income per employee). Line 19 shows the derivation of the ratio in line 5 from the

Table 4.
Average Shares of Entrepreneurial Income in Participation Income and of Entrepreneurs in Labor Force, States of the United States, Grouped by Income per Capita, 1919-21 and 1950

	1919-21 Groups of States by Income per Capita				1950 Groups of States by Income per Capita			
	I+II	III+IV	V+VI	Avg. for All States	I+II	III+IV	V+VI	Avg. for All States
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
All Sectors								
1. Share of entrepreneurial income in total participation income	25.1	34.4	42.7	34.1	18.3	28.5	26.0	24.3
2. Share of entrepreneurs in total labor force	18.3	30.2	38.6	29.0	13.7	21.9	22.9	19.5
3. Income per entrepreneur relative to statewide participation income per worker	1.40	1.16	1.12	1.23	1.31	1.30	1.14	1.25
4. Income per employee relative to statewide participation income per worker	0.92	0.94	0.93	0.93	0.94	0.91	0.96	0.94
5. Ratio, (3) to (4)	1.53	1.25	1.21	1.33	1.40	1.44	1.20	1.35
A Sector								
6. Share of entrepreneurial income in agricultural participation income	73.8	78.5	87.8	80.0	74.7	81.9	83.0	79.9
7. Share of entrepreneurs in agricultural labor force	57.3	67.7	71.3	65.4	58.1	69.5	72.5	66.7

labor force	57.3	67.7	71.3	65.4	58.1	69.5	72.5	66.7
8. Income per entrepreneur relative to statewide participation income per worker	1.19	1.05	0.97	1.07	1.26	1.27	0.90	1.14
9. Income per employee relative to statewide participation income per worker	0.55	0.61	0.33	0.50	0.56	0.59	0.48	0.54
10. Ratio, (8) to (9)	2.25	1.99	3.71	2.65	2.29	2.35	1.94	2.19
Non-A Sector								
11. Share of entrepreneurial income in non-agricultural participation income	17.3	19.1	19.9	18.8	13.4	16.4	15.3	15.0
12. Share of entrepreneurs in non-agricultural labor force	11.6	13.9	13.5	13.0	10.1	11.8	10.5	10.8
13. Income per entrepreneur relative to statewide participation income per worker	1.53	1.45	1.72	1.57	1.31	1.36	1.55	1.41
14. Income per employee relative to statewide participation income per worker	0.95	0.99	1.07	1.00	0.96	0.93	1.00	0.96
15. Ratio, (13) to (14)	1.62	1.47	1.61	1.57	1.37	1.46	1.55	1.46
Derivation of Line 5								
16. Share of A sector in labor force	15.0	30.7	43.15	29.6	7.4	17.1	20.1	14.9
17. Share of A sector among entrepreneurs	42.3	67.0	79.2	62.8	28.2	50.2	60.6	46.3
18. Share of A sector among employees	9.15	14.55	20.1	14.6	3.4	5.8	6.7	5.3
19. Derived ratio[a]	1.52	1.26	1.22	1.33	1.37	1.44	1.20	1.34

a. $$\text{Line 19} = \frac{(\text{line 8} \times \text{line 17}) + [\text{line 13} \times (100 - \text{line 17})]}{(\text{line 9} \times \text{line 18}) + [\text{line 14} \times (100 - \text{line 18})]}$$

Notes on next page.

combination of entries for the A and the non-A sectors; and reveals the components that produce the convergence of the ratios in line 5 as we move from the high to the low income states--despite the lack of convergence within the A and the non-A sectors separately.

In connection with the international comparisons in Table 3 we argued that there is no basis for assuming a convergence of the countrywide ratios of income per entrepreneur to income per employee as we move down the scale of per capita income--despite the indication of such convergence in Table 3. Here, in the case of the states we accept the finding of convergence for we can see its determinants. In the interstate analysis, unlike the case for countries, the proportion of entrepreneurs among all workers in the A sector increases substantially, whereas that proportion in the non-A sector rises only slightly as we move down the scale of per capita income. This different behavior of the p and t variables in the state data lends significance to the convergence shown.

We observed in Table 4 that in 1950, the ratio of income per entrepreneur to income per employee in the non-A sector averaged close to 1.5; and was negatively associated with per capita income, rising from 1.37 for groups I and II to 1.55 for groups V and VI. For that year we can also observe the distribution of participation income and labor force between entrepreneurs and employees in a number of branches among the non-agricultural industries. In Table 5 we show the relevant measures, for those branches in which the entrepreneurs are of some importance.

Notes to Table 4

For 1919-21 both the income and labor force data are from Maurice Leven, Income in the Various States, National Bureau of Economic Research, 1925, and from unpublished worksheets underlying that volume.

For 1950 the income data are from Personal Income by States since 1929, by Charles F. Schwartz and Robert E. Graham, Jr., a Supplement to the Survey of Current Business, Washington, 1956. The labor force data are from the Census of Population, 1950, Volume II.

Certain differences between our treatment of the 1950 data here (and in Tables 5 and 6) and the treatment in Paper III of this series (Economic Development and Cultural Change, Vol. VI, No. 4, Part II, July 1958) should be noted.

In Paper III, participation income in the A sector includes "other industries"--forestry, fishing, agricultural service industries, and rest of the world. Here it includes farming only.

In Paper III, labor force in the A sector includes forestry and fishing, unpaid family labor, and government employees working in agriculture. Here it includes agriculture only, excludes unpaid family labor and government employees (the latter are transferred to the government sector for comparability with income).

In Paper III, labor force in the M sector includes unpaid family labor and government employees working in that sector. In Paper IV these groups are excluded, with government employees transferred to the government sector.

For the S sector income and labor force in Paper III and here are derived as residuals and therefore reflect the differences in treatment of income and labor force in the other two sectors. Total labor force in Paper III includes and here excludes unpaid family labor.

All of these changes were made to secure a more consistent treatment of participation income and of labor force. The changes, however, are minor and do not affect the findings in Paper III.

Two broad conclusions stand out. The first is the rather wide difference among the branches in the ratio of income per entrepreneur to income per employee (the relatives here, unlike those in Table 4, are to the participation income per worker for the given branches). In some, e.g., personal service and finance, the ratio is quite low--1.11 and 1.30; in others, e.g., professional and related services, the ratio is as high as 3.6, and in the large group of all services well above 2.0. Clearly, with such a spread in the ratios, a shift in the weights of the various branches within the non-A sector can produce a movement in the ratio of income per entrepreneur to income per employee for the entire sector, without any such movement in the ratios within each branch (or with movements in the latter in opposite directions).

Second, in some of the branches distinguished in Table 5, the ratio of income per entrepreneur to income per employee is negatively associated with per capita income, rising as we move from high to low income states, and thus supports the association shown for the ratio in the non-A sector as a whole in Table 4. This is true of construction, trade, the service division as a whole, hotels and amusements, and with somewhat less clarity, business services, and professional services (lines 5, 10, 20, 25, 30, 40, and 45). But in others no such association is observed: in finance and personal service, the ratios in fact decline as we move down the scale of per capita income (lines 15 and 35). These findings thus demonstrate that the ratio of income per entrepreneur to income per employee for an aggregate can show one type of association with per capita income, while the ratios for some (and theoretically all) of its components can show the opposite type.

One final question remains. For total participation income and total labor force, the inter-industrial differences per worker widen as we move down the scale--whether for countries or for states (see Paper II, particularly the measures of inequality in Table 21, p. 46, and Paper III, particularly Table 34, p. 80). The inter-status differences in income per worker, i.e., relative differences between income per entrepreneur and income per employee appear to narrow as we move down the scale of countries by per capita income (Table 3 above), although the analysis shows that the finding may not be valid. However, in the interstate comparison in this country, the narrowing of inter-status differences in income per worker as we move from high to low income states does appear to be an acceptable finding. What is the result if we combine the inter-industrial and inter-status differences? For 1919-21 and 1950 we can compare the percentage distributions of labor force and of participation income by the three major industrial sectors but distinguishing entrepreneurs and employees within each (in 1919-21 all entrepreneurs outside of agriculture are, because of the limitation of the estimates, in the S sector). The differences between these two percentage distributions give us, by the procedure set forth in Papers II and III, a weighted measure of inter-industrial and inter-status inequality in relative income per worker. For 1950 the same measure can be computed from more detailed distributions using all sectors and branches distinguished in Tables 4 and 5, but not distinguishing between entrepreneurs and employees in those sectors in which the share of the former is negligible.

The results are shown in Table 6. In comparing the measures based on the industrial distribution alone (taken from Paper III) with those based on the industrial distribution combined with the distinction between entrepreneurs and employees, the differences in the division of income and labor force among the

Table 5.
Average Shares of Entrepreneurial Income in Participation Income and of Entrepreneurs in Labor Force, States of the United States Grouped by Income per Capita, Selected Divisions of Non-Agricultural Industries, 1950

	Groups of States by per Capita Income			Avg. for All States
	I+II	III+IV	V+VI	
	(1)	(2)	(3)	(4)
Construction				
1. Share of entrepreneurial income in participation income	22.7	27.6	29.0	26.4
2. Share of entrepreneurs in labor force	19.3	21.9	17.9	19.7
3. Income per entrepreneur relative to participation income per worker in division	1.20	1.29	1.67	1.39
4. Income per employee relative to participation income per worker in division	0.95	0.93	0.87	0.92
5. Ratio, (3) to (4)	1.27	1.41	1.96	1.55
Trade				
6. Share of entrepreneurial income in participation income	27.3	30.5	32.3	30.0
7. Share of entrepreneurs in labor force	20.7	20.6	22.2	21.2
8. Income per entrepreneur relative to participation income per worker in division	1.32	1.48	1.46	1.42
9. Income per employee relative to participation income per worker in division	0.92	0.88	0.87	0.89
10. Ratio, (8) to (9)	1.45	1.70	1.68	1.61
Finance				
11. Share of entrepreneurial income in participation income	16.4	17.7	15.2	16.4
12. Share of entrepreneurs in labor force	12.8	14.3	12.6	13.2
13. Income per entrepreneur relative to participation income per worker in division	1.30	1.24	1.23	1.26
14. Income per employee relative to participation income per worker in division	0.96	0.96	0.97	0.96
15. Ratio, (13) to (14)	1.36	1.29	1.27	1.31
Service				
16. Share of entrepreneurial income in participation income	31.7	34.8	31.2	32.6
17. Share of entrepreneurs in labor force	19.3	20.5	17.0	18.9
18. Income per entrepreneur relative to participation income per worker in division	1.66	1.70	1.89	1.75
19. Income per employee relative to participation income per worker in division	0.85	0.82	0.83	0.83
20. Ratio, (18) to (19)	1.98	2.08	2.29	2.12
Service[a]				
21. Share of entrepreneurial income in participation income	32.4	35.5	31.7	33.2

	(1)	(2)	(3)	(4)
Service[a] (continued)				
22. Share of entrepreneurs in labor force	19.3	20.5	17.0	18.9
23. Income per entrepreneur relative to participation income per worker in division	1.70	1.73	1.92	1.78
24. Income per employee relative to participation income per worker in division	0.84	0.81	0.82	0.82
25. Ratio, (23) to (24)	2.04	2.14	2.35	2.18
Hotels and Amusements[a]				
26. Share of entrepreneurial income in participation income	16.2	23.8	26.6	22.2
27. Share of entrepreneurs in labor force	15.5	18.4	16.2	16.7
28. Income per entrepreneur relative to participation income per worker in division	1.01	1.31	1.74	1.35
29. Income per employee relative to participation income per worker in division	0.99	0.93	0.88	0.93
30. Ratio, (28) to (29)	1.05	1.43	2.01	1.50
Personal Service[a]				
31. Share of entrepreneurial income in participation income	19.6	20.8	13.8	18.1
32. Share of entrepreneurs in labor force	17.7	19.2	13.3	16.7
33. Income per entrepreneur relative to participation income per worker in division	1.11	1.09	1.07	1.09
34. Income per employee relative to participation income per worker in division	0.98	0.98	1.00	0.99
35. Ratio, (33) to (34)	1.15	1.10	1.08	1.11
Business Service[a]				
36. Share of entrepreneurial income in participation income	36.9	49.0	42.1	42.7
37. Share of entrepreneurs in labor force	27.1	30.0	28.6	28.6
38. Income per entrepreneur relative to participation income per worker in division	1.34	1.62	1.48	1.48
39. Income per employee relative to participation income per worker in division	0.86	0.73	0.81	0.80
40. Ratio, (38) to (39)	1.68	2.82	2.02	2.17
Professional and Related Services[a]				
41. Share of entrepreneurial income in participation income	44.8	42.9	44.6	44.1
42. Share of entrepreneurs in labor force	19.0	17.8	18.1	18.3
43. Income per entrepreneur relative to participation income per worker in division	2.40	2.43	2.47	2.43
44. Income per employee relative to participation income per worker in division	0.68	0.69	0.68	0.68
45. Ratio, (43) to (44)	3.47	3.51	3.68	3.55

a. Entrepreneurial income includes "other labor income".
See notes to Table 4.

Table 6.
Measures of Inequality in Relative Participation Income per Worker, Industrial Distribution and Distinction between Entrepreneurs and Employees Combined, States of the United States Grouped by Income per Capita, 1919-21 and 1950

	Groups of States by per Capita Income			Arithmetic Mean (Unweighted)
	I+II	III+IV	V+VI	
	(1)	(2)	(3)	(4)
1919-21				
1. Based on A, M, and S	11.9	12.9	18.05	14.6
2. Based on A, M, and S, and entrepreneurs and employees within A and S	16.6	17.3	21.5	18.5
1950				
3. Based on A, M, and S	6.2	6.95	13.4	8.8
4. Based on six segments (A, M, and S and entrepreneurs and employees within each)	13.5	16.6	14.2	14.8
5. Based on twenty segments	17.9	21.2	23.7	20.9

Lines 1 and 3: from "Quantitative Aspects of the Economic Growth of Nations. III. Industrial Distribution of Income and Labor Force by States, United States, 1919-1921 to 1955", Economic Development and Cultural Change, Vol. VI, No. 4, Part II, July 1958, Table 34, p. 80. See notes to Table 4 on differences between Paper III and the present paper in the treatment of participation income and labor force by sectors.

Line 2: entrepreneurs and employees are distinguished within the A and S sectors. No such distinction could be made for the M sector in which both income and number are limited to employees.

Line 4: entrepreneurs and employees are distinguished within each of the three major sectors.

Line 5: entrepreneurs and employees are distinguished within each sector shown in Tables 4 and 5, yielding twenty segments in all: two in the A sector, one in mining, one in manufacturing, two in construction, one in transportation and public utilities, two in trade, two in finance, two in each of the four subdivisions of service (listed in Table 5), and one in government.

The inequality measures were calculated separately for each state, and then averaged (arithmetic means) for the groups of states in columns 1-4.

sectors should be noted. But even with this qualification on comparability, the following conclusions seem evident. First, with the distinction between the entrepreneurs and employees added, the inequality in relative income per worker widens: for all states it changes from 14.6 to 18.5 in 1919-21, and from 8.8 to either 14.8 or 20.9 in 1950. Second, this widening of inequality is greater for groups I and II than for groups V and VI: thus in 1919-21, the measure for groups I and II rises 4.7 points, that for groups III and IV 4.4, but that for groups V and VI only 3.5 (lines 1 and 2); in 1950 likewise, the measures of inequality for groups I and II, and III and IV are almost tripled, but that for groups V and VI is less than doubled (lines 3 and 5). This is what one would expect since the difference between entrepreneurial and employee income per

capita is smaller in the low than in the high income states. Third, the negative association between inequality in relative income per worker and per capita income remains even when we introduce the distinction between entrepreneurs and employees: in lines 2 and 5 the measures of inequality rise as we move from column 1 to column 3, and in line 4 the rise is also observed although it is not as consistent. In other words, inequality in relative income per worker is still wider in the low income areas than in the high income areas. Fourth, the increase in inequality as we move from high to low income states is not as great, relatively or even absolutely, in the measure based on the combined industry-status classification as it is in that based on the industry classification alone: thus the rise in the inequality measure from column 1 to column 3 is smaller in lines 2 and 5 than in lines 1 and 3.

The bearing of these findings upon international comparisons is clear. If we assume no significant differences between high and low income countries in the spread between income per entrepreneur and income per employee, a combined industrial-status distribution would show wider inequality in relative income per worker than the industrial distribution alone; and would still show a clear negative association with income per capita, i.e., be wider in low income than in high income countries.

F. The Distinction between Wages and Salaries

The distinction between wages and salaries within compensation of employees may be based upon the level of per capita income; the frequency of payment; the relation between payment and some measure of output credited to the employee; the character of the employee's productive performance, i.e., whether it is or is not manual labor; the training of the employee; and, from the standpoint of economic analysis perhaps most interesting, the responsiveness of the demand for the employee services to expected short-term changes in volume of output. While theoretically, wages and salaries could be defined so that one and the same employee could receive part of his compensation in the form of wages and part in the form of salaries, it is accepted practice to identify the distinction between wages and salaries with that between wage earners and salaried employees.

However the line is drawn, both conceptual and statistical difficulties arise which cast doubt upon the validity of the distinction. A statement made in connection with a recent attempt to define wage earners and salaried employees may be helpful:[18]

> The distinction made by the various countries between wage earners and salaried employees is unfortunately one of the less comparable in the field of social statistics. Some countries distinguish these groups on the basis of frequency of payment, persons paid monthly or at less frequent intervals being counted as salaried employees, while those paid at more

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18. See "The World's Working Population: Its Distribution by Status and Occupation", International Labour Review, Vol. LXXIV, No. 2, August 1956, pp. 185-186. See also Hilda R. Kahn, "The Distinction between Wages and Salaries", Scottish Journal of Political Economy, Vol. III, No. 2, June 1956, pp. 126-145.

frequent intervals are classified as wage earners; but this method does not ensure international comparability and is sometimes inapplicable. In other countries the two groups are separated according to social insurance regulations; as such regulations differ widely from one country to another, little international comparability may be expected on this basis. Other definitions are also used. The concepts that underlie these various definitions are, however, not so far apart: they are all an attempt to distinguish those doing mainly intellectual and office type work (i.e., white-collar workers) from those doing mainly manual and related kinds of work. While the different definitions used in the various countries may result in fairly important differences in the classification of certain persons, thus hindering international comparisons, they do not make such comparisons altogether impossible, and sound conclusions or trends may be drawn from the examination of the figures for each country.

Whether one agrees with this somewhat optimistic conclusion as to the validity of the distinction, data that distinguish wages from salaries are not easily at hand; and in view of the doubts besetting the significance of this distinction, an attempt to gather the data did not seem warranted. However, we do have figures on the proportions of wage earners and salaried employees for several countries for a post-World War II year; and from them we can derive some general observations concerning international differences both in the shares of wages and salaries in total or participation income, and in the shares of wage earners and salaried employees in total labor force (Table 7).

The following conclusions are suggested by Table 7. First, the share of salaried workers among all employees is usually lowest in the agricultural sector; somewhat higher in industry; and the highest by far in the service sector. We know from the discussion in Paper II that the shares of the industry and services sectors in total labor force are positively associated and the share of the agriculture sector in total labor force is negatively associated with per capita income. Also, in Table 3 we found that the share of agricultural employees among all employees was higher in the low income countries than in the high income countries. It follows that: (i) the share of salaried workers among all employees should be higher in the high income countries than in the low income countries; and (ii) since the proportion of all employees to total labor force is higher in the high income countries (see Table 3, line 2), the proportion of salaried employees to total labor force should be positively correlated with per capita income, i.e., higher in the high income countries than in the low income countries.

These inferences concerning international differences in shares of wage earners and salaried employees among all employees, or in total labor force, are obvious. They are supported by the evidence in Table 7, even though only seven countries are covered, the range of differences in per capita income is not too wide, and some elements of incomparability are present: it is hardly an accident that Italy, with the lowest per capita income, shows the lowest proportion of salaried workers among all employees, and Sweden, with the highest per capita income, shows the highest proportion. But the translation of this inference to international differences between the shares of wages and of salaries, in employee compensation, or in participation income, or in national income, depends upon the relative spread between wage per wage earner and salary

Table 7.
Distribution of Employees between Wage Earners and Salary Recipients, Total and within Major Sectors, Selected Countries, Post-World War II Year

	Percentage Share in Total Number of Employees			
	Total (1)	Agriculture (2)	Industry (3)	Services (4)
Austria, 1951				
1. Wage earners	68.0	96.0	85.8[a]	36.9
2. Salary recipients	32.0	4.0	14.2	63.1
Denmark, 1950				
3. Wage earners	71.1	94.5	87.9	48.1
4. Salary recipients	28.9	5.5	12.1	51.9
Germany (F.R.), 1950				
5. Wage earners	72.0	95.8	86.5	44.5
6. Salary recipients	28.0	4.2	13.5	55.5
Italy, 1954				
7. Wage earners	82.0	98.6	93.8[b]	58.3[b]
8. Salary recipients	18.0	1.4	6.2[b]	41.7[b]
Norway, 1950				
9. Wage earners	71.5	87.6	88.9	51.2
10. Salary recipients	28.5	12.4	11.1	48.8
Sweden, 1950				
11. Wage earners	65.1	87.2	82.5	41.6
12. Salary recipients	34.9	12.8	17.5	58.4
Switzerland, 1950				
13. Wage earners	70.4	96.4	81.7	51.5
14. Salary recipients	29.6	3.6	18.3	48.5

a. Typographical error in source gives 85.2.
b. Utilities are included in services.
Source: "The World's Working Population: Its Distribution by Status and Occupation", International Labour Review, Vol. LXXIV, No. 2, August 1956, particularly Tables IV and V, pp. 187 and 189.
"Agriculture" includes agriculture proper, hunting, and fishing. "Industry" includes mining and quarrying, manufacturing, construction, and utilities (electricity, gas, and water). "Services" includes commerce, transport, storage, and communication, as well as public and private services (ibid., footnote 1, p. 181).
The distributions in the table generally exclude persons working in "industries not adequately described" and "persons seeking work for the first time", as well as unemployed where their distribution by status and industry was not available.

per salaried employee. This spread is probably far wider in the low income, less developed countries than in the high income, more developed countries: in the former, the excess of the proportion of the A sector among all wage earners over its proportion among all salaried employees is much greater than in the more developed countries, and at the same time compensation per wage earner and perhaps even per salaried employee in the A sector is much lower than the corresponding income per capita for the non-A sector. The wider spread between wage per wage earner and salary per salaried employee in the less developed countries tends to offset the lower share of salaried workers among all employees. How large this offset is and what effect it has on international differences in the shares of wages and of salaries in compensation of employees, participation income, and national income, is a matter for conjecture. By and large, the share of salaries in total compensation of employees is probably positively correlated with per capita income, i.e., higher in the high income countries than in the low income countries. The shares of both wages and salaries in total participation or total national income are also likely to be positively correlated with per capita income.

III. The Long-Term Changes

The discussion so far dealt with the international (and interstate) differences in the distribution of national income by type of income, and of labor force by status--although our main interest is in the long-term changes in these distributions that accompany, and thus constitute a part of, the economic growth of nations. The purpose, however, was to derive some inferences concerning these long-term changes, particularly important for this aspect of economic structure because direct data on long-term changes are so scanty.

These data--for six countries: the United Kingdom, France, pre-World War II Germany, Switzerland, United States, and Australia--are given in Appendix E. Even for this scanty list, the series are deficient in some respects: the allocation of income by type or of labor force by status cannot in some countries be carried through adequately; the basic data for others are not too firm; the period covered is too short in still others; and so on. It seemed best to assemble the data that could be gathered for each country in Appendix E; and it was hardly possible to summarize them effectively in text tables. The discussion, therefore, is based upon and refers directly to the tables in Appendix E, with one or two exceptions. And we consider here the long-term changes in (a) the share of income from assets; (b) the distribution of participation income and of labor force between entrepreneurs and employees; and (c) the distribution of employee compensation between wages and salaries, and the wage share.

A. The Share of Income from Assets

Our data on this share reach back for the United Kingdom to the 1860's, for France to the 1850's, for Germany to the 1890's, for Switzerland to 1913, for the United States to the 1870's, and for Australia to 1928-29. Even this listing exaggerates the supply of data, since in some countries, e.g., the United Kingdom and the United States, the proper share of income from assets can only be roughly approximated by dint of some crude assumptions; and in other countries, e.g., France and Switzerland, sets of estimates prepared by different

authors with possible elements of incomparability affecting the result are used. The findings are necessarily only impressionistic conclusions.

i. Before World War I, the share of income from assets, while at different levels in the different countries, displayed no significant long-term trends. Thus, for the United Kingdom, it varied from 1860-69 to 1905-14 between 33 and 37 percent of national income, with no observable long-term trend (App. Table 9, column 7); for France the share of property income of households rose from 18 percent in 1853 to 24 percent in 1911, but the underlying estimates are crude and the rise too small to be attributed much significance (App. Table 10, columns 3 and 4); for Germany, income from assets accounted for 17 to 18 percent of national income, with no apparent trend during the period from 1895 to 1913 (App. Table 13, column 3); for the United States, the share, including property income attributable to unincorporated enterprises, ranged from 30 to 37 percent in one estimate between 1870 and 1910, from 27 to 38 percent in another--and in neither with any significant long-term rise or decline (derived from App. Table 16, lines 4 and 6). The coverage, limited to five countries, is too scanty and the individual series too crude to provide firm findings; and it must be recognized that with the share of income from assets ranging between 18 and 38 percent, even sizeable relative changes are just a few points when expressed in percentages of national income. Yet if there were sustained and sizeable trends in the share, they would have been noticeable even in the crude data. We may, therefore, tentatively conclude that if there were any long-term trends in the share of income from assets from the third quarter of the 19th century to World War I, they could not have been significantly large--at least in the major countries of Europe and in the United States.

This impression of long-term stability in the share of income from assets before World War I seems plausible in the light of the trends that we might expect in R, S, and Y--the three determinants discussed above. Clearly, S, the share of income-yielding wealth other than the equity of unincorporated enterprises, should rise with a country's economic growth, reflecting the reduction in the share of such enterprises in the country's economic activity; and a rise in S would, other conditions being equal, raise the share of income from assets in national income. By contrast, Y, the average yield, should decline with a country's economic growth, reflecting a greater supply of capital funds; and a decline in Y would, other conditions being equal, reduce the share of income from assets and thus offset, partly or wholly, the effect of S. The trend in R, the ratio of all income-yielding wealth to national income, cannot be clearly conjectured; and we may assume its constancy over the long run, although it may move up and down over some decades within the longer period.

The preceding comments do not mean that there are no long-term rises and declines in the share of income from assets. During some phases of a country's economic growth, the effects of the rise in S may be greater or less than those of the decline in Y; and the balance of the two may be affected by some movements in R. Unfortunately, we have no empirical data by which we can measure these determinants and derive some plausible generalizations. However, Table 8 provides limited evidence for the United States. The share of income from assets was relatively constant in the United States even for a time after World War I; and the long-term movements in the share from 1900 to 1929 were, on the whole, negligible. In this case the stability was due largely to the opposite movements of R and S: the former declined from 1900 to 1929, while

Table 8.
R, S, and Derived Y, United States, Selected Years, 1900 to 1955-56

	R (1)	S (2)	Percentage Share of Income from Assets in National Income (3)	Derived Y (4)
1. 1900	5.24	0.66	25	7.2
2. 1912	5.02	0.66	25	7.5
3. 1922	4.51	0.75	26	7.7
4. 1929	4.85	0.80	26	6.7
5. 1939	4.73	0.815	19	4.9
6. 1955-56	3.53	0.82	20	6.9

Column 1: except for line 6, which is based on data for a single year, the ratios are derived from quinquennial totals centered on the year indicated. Totals of national wealth in current prices, excluding consumers' durables, for lines 1-5 are from Raymond W. Goldsmith and others, A Study of Saving in the United States, Vol. III, Princeton, 1956, pp. 14-15; totals for national income in current prices are from ibid., p. 427 (based on cost valuation of depreciation). For 1955-56 the wealth total, also estimated by Dr. Goldsmith, was reported in the Thirty-Seventh Annual Report of the National Bureau of Economic Research, New York, 1957, Table 2, p. 36 (end of 1955); the relevant national income totals for 1955 and 1956 were taken from the Survey of Current Business, July 1957.

Column 2: derived by relating, for the single years, equity of farmers and unincorporated business (excluding consumers' durables) to the total of national wealth also excluding consumers' durables. All the relevant data are from the sources cited in the notes to column 1.

Column 3: an attempt at a continuous series derived from the rather disparate series on the distribution of national income by type in the United States in Appendix Table 17. We accepted the ratios based on the Department of Commerce estimates as they stand; and used the other series for rough extrapolation. It should be noted that we do not allow here for the difference between cost and replacement bases of depreciation charges, which is reflected in the N.B.E.R. estimates in Appendix Table 17 and which results in a much larger proportional loss item under corporate undistributed income in 1929-38 in the former estimates.

Column 4: column 3 divided by (col. 1 x col. 2), as discussed in the text.

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the latter rose. However, these are figures for single years; and the measures of Y are derived, not independently obtained. The table thus provides illustrative material rather than substantive findings.

ii. In comparing pre- and post-World War I shares of income from assets, we find a significant decline in most countries. Thus, in the United Kingdom, the share dropped from 37 percent in 1905-14 to 26 percent in 1920-29 (App. Table 9, column 7); in France, from 25 percent in 1911 or 22 percent in 1913 to 20 percent in 1920-29 (App. Table 10, column 6); in Germany, from 19.5 percent in 1913 to 9.4 percent in 1925-29 (App. Table 12, column 3); in Switzerland, from 34 percent in 1913 to 25 percent in 1924 (App. Table 14, column 3). By

contrast, the share for the United States did not decline: insofar as the different estimates can be linked, the share in 1919-28, 24 percent, is about the same as or only slightly higher than the share for 1899-1908 and 1904-13 (App. Table 17, column 6).

In discussions of the decline of the share of income from assets after World War I, reference is often made to the effect of war and inflation upon the income from securities and upon rent; and obviously liquidation of foreign investments, which represent capital use with a high capital-income ratio, can produce a decline in the share of income from assets. In terms of the three determinants, the decline in the share of income from assets after World War I may thus be due partly to a decline in R and partly to a decline in Y, not fully offset by any rise in S. Unfortunately, the testing of this explanation requires data that are not available.

iii. The movement after the 1920's was affected by the major depression of the 1930's and then by World War II. But the share of income from assets is markedly lower after World War II than in the 1920's (or some later date). Thus, in the United Kingdom, the share declined from 26 percent in the 1920's to 16 percent in 1945-54 (App. Table 9, column 7); in France, from 20 percent in 1920-29 to less than 10 percent in 1952-56, if the two different sets of estimates can be compared (App. Table 10, column 6); in Switzerland, from 27 percent in 1938 (excluding net income of government from enterprise and property) to 20 percent in 1952-56 (App. Table 14, column 3); in the United States from about 25 percent in the 1920's to 20 percent in the more recent years (App. Table 17, column 6); in Australia, from about 25 percent in 1928-29 to 18.5 percent in 1952-56 (App. Table 19, column 5).

We also can compare for a larger number of countries the shares in 1938 (a single year) with those for the most recent available post-World War II quinquennium (Table 9). In all countries, except Canada, the United States, and Peru, the share of income from assets was significantly lower in the post-World War II quinquennium than in the pre-war year; and of the three exceptions, the findings for Canada and the United States are affected by the relatively low position of 1938 in the business cycle (and as we saw, there is a decline in the share for the United States from the 1920's). One could, therefore, argue that the drop in the share of income from assets between the pre- and post-World War II years was fairly general--having occurred in all but one country in Table 9, as well as in the United Kingdom and France.

Even more interesting is the indication in Table 9 that the decline in the share of income from assets was largely accounted for by the decline in the share of the property income of households. The latter drops between the pre- and post-World War II years in all twelve countries (column 2); and in nine of the twelve, the decline is larger than that in the share of total income from assets. This means that the share of income from assets not channeled to the households, i.e., the sum of net undistributed profits of corporations, direct taxes on corporations, and net income of government from enterprise and property, increases.

We can easily account for the decline in the share of property income of households and the rise in the share of income from assets flowing through the organized channels of corporations and government. Property income of

Table 9.
Changes in the Share of Income from Assets in National Income, Selected Countries, 1938 to 1952-56 (unless otherwise indicated)

	Changes in Share of:				
	Total Income from Assets (1)	Property Income of House-holds (2)	Undistri-buted Profits of Cor-porations (3)	Other Income from Assets (4)	3+4 (5)
1. Belgium	-4.2	-7.4	n.a.	n.a.	+3.2
2. Finland[a]	-9.5	-10.4	n.a.	n.a.	+0.9
3. Norway[b]	-7.4	-8.3	n.a.	n.a.	+0.9
4. Switzerland[c]	-6.5	-9.8	+3.3	n.a.	+3.3
5. Japan[d]	-16.8	-16.3	+1.2	-1.7	-0.5
6. Canada	+1.3	-4.9	+2.4	+3.8	+6.2
7. United States	+1.5	-5.4	+2.1	+4.8	+6.9
8. Chile (1940 to 1950-54)	-20.7	-12.8	-7.4	-0.5	-7.9
9. Honduras (1938 to 1951-55)	-0.7	-1.6	+0.2	+0.7	+0.9
10. Peru[e] (1942 to 1951-55)	+1.3	-3.9	+3.4	+1.8	+5.2
11. Australia	-9.4	-6.3	-2.0	-1.1	-3.1
12. New Zealand[a]	-4.2	-5.3	+0.2	+0.9	+1.1

Based on Appendix Table 6. The changes are in percentages of the allocated total.

a. Dividends are included with undistributed corporate profits.
b. Income of unincorporated enterprises, other than those in agriculture, forestry, fishing, and services included with undistributed corporate profits.
c. Net income of government from enterprise and property, which amounted to 3.1% of the allocated total in 1938, was not reported in 1952-56. We omitted this item in 1938 also to improve comparability.
d. Interest on public debt was excluded in 1938.
e. Net income of government from enterprise and property, which accounted for -1.1% of the allocated total in 1942, was not given for 1951-55. We omitted the item from the shares for 1942.

households includes interest, dividends, and rent received by individuals. World War II with its regulations and the subsequent inflation, as well as government policy of low long-term interest rates all helped to keep the flow of interest and rent payments (including imputed rent) from growing as rapidly as national income and its other components;[19] and even dividends may have been reduced because corporations had to retain a larger proportion of their profits after taxes to allow for higher replacement and expansion cost of durable equipment. By contrast, net undistributed profits of corporations could rise under the relatively prosperous post-World War II conditions and the pressure for capital replacement and expansion; direct taxes on corporations rose proportionately with

19. See in this connection the interesting analysis for the United States by Edward F. Denison, "Distribution of National Income: Pattern of Income Shares since 1929", Survey of Current Business, June 1952, pp. 16-23.

the rise in gross corporate profits; and the share of net income of governments from property and enterprise may also have risen, reflecting both the long-term growth of the share of government in the economy and the acceleration of that growth resulting from World War II. The decline in the share of all income from assets thus reflects the excess of the decline in the share of property income of households over the rise in the share of corporate and government profits. A more penetrating explanation of the recent change requires a careful examination of the factors that kept the relative rise of the non-household components of income from assets from fully offsetting the relative decline of property incomes flowing to households. But even if perfect balance had been maintained and the share of all income from assets remained stable, the increase in the share of income from government-held assets would still have meant that in the private sector there was an unmistakable reduction in the share of income from assets and a corresponding rise in the share of participation income.

To summarize: the share of all income from assets appears to have been fairly stable between the third quarter of the 19th century and World War I; declined after World War I in several European countries but not in the United States; and then declined in almost all countries for which we have data between the pre- and post-World War II years. One cannot but be impressed by the finding that the aftermath of major wars is a decline, rather than a rise, in the share of income from assets--particularly in the share of property income of households.

Many questions are left unanswered. What were the movements of the share of income from assets before the third quarter of the 19th century? Why are there wide differences among developed countries in the level of the share of income from assets, with that for the United Kingdom almost twice that for Germany and so much higher than those for the United States and France--all before World War I? What are the long-term movements of the various components of the share of property income of households? Clearly these questions are important for understanding the relation between the type of income distribution of national income and other aspects of economic structure and growth. The summary above is necessarily limited, and all too little is known; but that little is very different from the dogmatic generalizations advanced with vehemence on this topic of the share of property incomes which has been the focus of so much social controversy.

B. Distribution of Participation Income and Labor Force between Entrepreneurs and Employees

i. We begin with the distribution in which the trends are clearly evident, viz., that of the labor force between entrepreneurs (including own account workers) and employees. In the International Labour Review survey cited above (see footnote 18) we find the following long-term movement in the distribution of the labor force (excluding unpaid family labor): in Australia the share of entrepreneurs declined from 22.4 percent in 1911 to 18.0 percent in 1954, and the share of employees rose correspondingly from 77.6 to 82.0 percent; in France, the share of entrepreneurs (including unpaid family labor which cannot be segregated) declined from 45.4 percent in 1851 to 35.1 percent in 1954; in Germany (1934 territory), the share of entrepreneurs declined from 29.1 percent

in 1882 to 16.7 percent in 1939; and in the Federal Republic of Germany, it declined further from 18.3 percent in 1939 to 17.3 percent in 1950; in Switzerland the share of entrepreneurs dropped from 35.1 percent in 1888 to 20.2 percent in 1950. To this we can add the evidence for the United States: in the paper by Edward C. Budd, cited in Appendix Table 16, the share of entrepreneurs in the labor force is shown as 36.5 percent in 1870 and 26.4 percent in 1910 (see Appendix A of Mr. Budd's paper); and by linking the various estimates in Appendix Table 18, Panel B, we find that the share of entrepreneurs in the labor force declined further from 26.0 percent in 1909-13 to 15.5 percent in 1949-53.

While the evidence is limited to five countries, the downward trend in the share of entrepreneurs in the labor force, and the corresponding upward trend in the share of employees, is uniform.[20] And reference to the underlying movements among and within the major industrial sectors supports the conclusion that this long-term change in the distribution of the labor force accompanies the process of modern economic growth. Table 3 indicated that the share of entrepreneurs among all workers is highest in the A sector, being substantially above the share of entrepreneurs among all workers either in the non-A sector, or in the M and S sectors. Hence, the reduction of the share of the A sector in a country's labor force, which accompanies economic growth, means in and of itself a decline in the proportion of entrepreneurs among all workers in the country. Furthermore, in both the M and the S sectors the proportion of entrepreneurs among all workers is negatively associated with per capita income (see Table 3). It follows that with economic growth, the share of entrepreneurs among all workers in the non-A sector also declines, contributing further to the downward trend in the share of entrepreneurs in country-wide labor force.

ii. If the long-term decline in the share of entrepreneurs in the labor force in the course of economic growth is accepted--and the evidence for this trend is convincing--the long-term movements in the share of entrepreneurial income in total participation income depend upon the trends in income per entrepreneur relative to income per employee.

In the discussion of the determinants of the ratio of participation income per entrepreneur to participation income per employee (particularly the exposition in Appendix C) we concluded that the ratio, in the course of economic growth, is affected by opposite influences--some tending to raise it and others to lower it. Thus, the decline in s, the share of the A sector in total labor force, and the rise in c, relative income per worker in the A sector, both of which usually accompany economic growth, tend to produce an upward trend in the ratio of income per entrepreneur to income per employee. By contrast, the rise in p, the proportion of entrepreneurs among all workers in the A sector, and the decline in t, the proportion of entrepreneurs among all workers in the non-A sector, also found in the course of economic growth, both tend to produce a downward trend in the ratio of income per entrepreneur to income per worker. And we know too little about the other two determinants--w, the ratio of income per entrepreneur to income per employee in the A sector, and y, the ratio of

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20. The exception in the case of the United Kingdom (App. Table 9) is discussed below.

income per entrepreneur to income per employee in the non-A sector--to suggest their long-term trends. The analysis therefore does not yield any firmer conclusions concerning the long-term trends in the countrywide ratio of participation income per entrepreneur to that per employee except to indicate that these trends are a net balance of conflicting effects of the several immediate determinants.

The empirical evidence is rather scanty. For France we find a distinct long-term decline in the ratio of income per entrepreneur to income per employee: it drops in one series of estimates from 2.3 in the 1850's to 1.5 in the first decade of the 20th century; in another it is 1.0 in the first decade of this century, drops to 0.7 in the 1930's, and then recovers to 1.0 in the 1950's (App. Table 11, column 7). For Germany the data also indicate a long-term decline: the ratio of income per entrepreneur to income per employee drops in one estimate from 3.4 in 1895 to 2.8 in 1913; in another, from 2.6 in 1913 to 2.1 in 1938 (App. Table 13, column 7). For Switzerland the available data cover 1930-50 only, and for this period the ratio is constant at 1.38 (App. Table 15, line 7). Finally, for the United States we have several, rather disparate estimates for 1909-53: the ratio changes little between 1909-13 and 1919-23; it drops somewhat from 1919-23 to 1934-38; and then rises from 1934-38 to 1949-53 (App. Table 18, Panel C, column 7). The general impression for the United States is of an absence of any significant long-term trend. The same conclusion is suggested for the ratio of income per entrepreneur to income per employee within the A sector (ibid., column 8), which averages over 2.0; and there is some slight evidence of a decline in the ratio within the non-A sector, which averages somewhat over 1.5 (ibid., column 9).

Thus, as far as the evidence goes, the long-term trends in the countrywide ratio of participation income per entrepreneur to participation income per employee are either downward (France and Germany) or constant (Switzerland and the United States, although the evidence for the former covers only two decades).

iii. If we accept the conclusion just stated, and there are no grounds for rejecting it, the inference as to long-term trends in the distribution of participation income between entrepreneurs and employees is obvious: the share of the former should decline, and that of the latter rise, in the course of a country's economic growth.

The evidence at hand naturally supports this conclusion since it was used to derive the trends in both the distribution of the labor force and the ratio of income per entrepreneur to income per employee. Thus, for France, the share of entrepreneurial income in participation income declines from 56 percent in the 1850's to 42 percent in the first decade of the 20th century; and then declines again, in another set of estimates, from 43 percent in the first decade of this century to 35 percent in the 1950's (App. Table 11, column 1). In Germany, the share of entrepreneurial income in participation income declines from 54 percent in 1895 to 43 percent in 1913; and then in another estimate, from 41 percent in 1913 to 30 percent in 1938 (App. Table 13, column 1). In Switzerland, the share of entrepreneurial income in participation income declines from 30 percent in 1929-31 to 26 percent 1949-51 (App. Table 15, line 1). Finally, in the United States, the share declines from about 34 percent in 1909-13 to 18 percent in 1949-53 (App. Table 18, Panel A, column 2).

What about the shares of the entrepreneurs and employees not in participation but in national income? The trends can obviously be inferred from the conclusions above first as to the shares of participation income and income from assets in total national income, and second as to the shares of entrepreneurial and employee income in participation income proper. We found that the share of income from assets in total national income was either constant or declined--for some countries after World War I, for others somewhat later; and that correspondingly the share of participation income in national income either was constant or rose in recent decades. This, combined with the finding for the distribution of participation income between entrepreneurs and employees, leads to two conclusions. First, the share of compensation of employees in national income should have shown an upward trend, when the share of income from assets was constant and all the more when the latter declined. Second, the share of entrepreneurial income in national income should have shown a declining trend when the share of income from assets was constant, while its trend when the share of assets declined may have been downward, constant, or upward.

While the first inference is obvious enough not to require citation of empirical evidence, we summarize the latter--particularly since there is one important exception that has some puzzling elements. In France, the share of compensation of employees in national income rose from 36 percent in 1853 to 44 percent in 1911 in one estimate; and then from 45 percent in 1913 to 59 percent in 1952-56 in another estimate (App. Table 10, column 1). In Germany, the share rose from 39 percent in 1895 to 47 percent in 1913 in one estimate; and then from 48 percent in 1913 to 63 percent in 1938 in another estimate (App. Table 12, column 1). In Switzerland, if we link two sets of estimates, the share rises from less than 50 percent in 1924 to 61 percent in 1952-56 (App. Table 14, column 1). In the United States, Mr. Budd's paper, already referred to, sets the share of wages and salaries in private income (excluding government) at 43 percent in 1869-70 and at 48 percent in 1909-10, a revision of the obsolete estimates by W. I. King which indicated a constant share (see Tables 1 and 2 of Mr. Budd's paper); and linking the various estimates in App. Table 17, column 1, we find the share of compensation of employees rising from about 53 percent in 1899-1908 to 66 percent in 1948-57. Finally, in Australia, the share appears to be constant from 1910-14 to 1919-23, and rises only slightly from 1928-29 to 1952-56 (App. Table 19, column 1).

The case for Australia is not clear, particularly since we have no evidence on income of unincorporated enterprises over a long period and since the sets of estimates are rather disparate. The evidence for the other four countries indicates substantial long-term rises in the share of compensation of employees in national income. The really important exception is the United Kingdom before World War I, where the share of wages and salaries in national income is fairly constant from 1860-69 to 1905-14 at between 47 and 50 percent (App. Table 9, column 1). To be sure, the share rose after World War I; but the puzzle lies in its failure to rise before that period. The explanation--if not attributable to errors in estimation--may lie in the fact that by the 1860's, the United Kingdom already had a very small proportion of entrepreneurs in its total labor force; and this proportion, roughly set by us at 13 percent, in fact did not decline during this period--which would mean that the United Kingdom was an exception also (if a transient one) to our other general conclusion, viz., that the proportion of entrepreneurs in the labor force declines with economic

growth. However, the data at hand for the United Kingdom are not adequate for an acceptable answer. By and large, the evidence is heavily in favor of the conclusion that the share of compensation of employees in national income, like the share of employees in total labor force, generally rises with a country's economic growth.

For the second inference, that relating to the trends in the share of entrepreneurial income in national income, the evidence follows (again excepting the United Kingdom, in which these shares were estimated by assumption). In France, the share declined from 46 percent in 1853 to 32 percent in 1911; but then between 1913 and 1952-56 no further significant decline was manifest, the percentage being 33 in 1913, declining to 29 in 1920-29, and still further to 24 in the depressed 1930's, but rising again to 31 in 1952-56 (App. Table 10, column 2). Thus the share declined while the share of income from assets was constant, but was relatively constant when the share of income from assets declined sharply. In Germany, the share of entrepreneurial income in national income dropped from 45 percent in 1895 to 35 percent in 1913; then in another estimate, it moved from 33 percent in 1913 to 26 percent in 1935-38 (App. Table 12, column 2). Here the decline in the share continued even when the share of income from assets declined. In Switzerland, the share of entrepreneurial income in national income declined from 25 percent in 1924 to 22 percent in 1938, in one estimate; and then from 22 percent in 1938 to 19 percent in 1952-56 in another (App. Table 14, column 2). In the United States, the share of entrepreneurial income in national income declined from about 24 percent in 1899-1908 to about 18 percent in 1919-28, and then further to 14 percent in 1948-57 (App. Table 17, column 2). The weight of empirical evidence favors a downward long-term trend in the share of entrepreneurial income in national income, this decline yielding to constancy when the share of income from assets in national income drops sharply.

C. The Distribution between Wages and Salaries, and the Labor or Wage Share

For reasons already indicated the distinction between wages and salaries, or between wage earners and salary recipients, cannot be drawn clearly--except within some commodity-producing sectors; and any conclusions as to the trends in the distribution between wages and salaries, or between wage and salaried employees, can hardly have precise meaning--unless the data permit the specification of the groups involved far more clearly than is now the case. Nevertheless, we may glance at this distinction and see whether the easily available data do suggest some trends. Our interest here, also, is to clarify some hazy and conflicting notions that have developed around the concept of the labor or wage share.

i. We begin with the distribution of employees between wage earners and salary recipients, since we have some long-term data conveniently at hand. Data in the International Labour Review (see footnote 18) indicate clearly that the share of salaried workers among all employees has risen over time (see Table IV, p. 187). Thus, for France, the share rose from 2.3 percent in 1851 to 23.3 percent in 1946; in pre-World War II Germany from 7.9 percent in 1882 to 27.2 percent in 1939; in Switzerland from 14.1 percent in 1900 to 29.6 percent in 1950; and in five other countries shown (Austria, Denmark, Italy, Norway, and Sweden), data covering much shorter periods, usually from the 1930's to the 1950's, also

indicate a rise in the share of salaried workers among all employees. To this evidence we can add some data for the United States: in The Wealth and Income of the People of the United States (New York, 1915), W. I. King estimates that salaried persons were less than 10 percent of all employees in 1870 and over 20 percent in 1910 (see Table XXXIIa, p. 264); and the more recent data, based on censuses of occupations, show that all workers (unskilled, semiskilled, and skilled, including foremen) whom we can treat as wage-earners, accounted for 81 percent of the total labor force, excluding proprietors, managers, and officials--thus leaving 19 percent for the salaried employee group; whereas in 1940, the shares were 71 and 29 percent respectively, the share of the salaried group having risen about 10 percentage points.[21]

The evidence without exception indicates that the long-term trend in the share of salaried workers among all employees is upward. Since, as shown in Table 7, the percentage of salaried persons among all employees is highest in the S sector and lowest in the A sector, the very shift of the labor force away from the A sector in the course of economic growth would, other conditions being equal, produce an upward trend in the countrywide share of salaried employees. Furthermore, there would be a tendency, both within the A and the M sectors and in some subdivisions of the S sector, for the proportion of salaried workers to all employees to rise--the result partly of technical progress which reduces the demand for manual labor more than the demand for white-collar labor, and partly of greater complexity of the production units which necessitates greater demand for supervisory and office personnel. We can, therefore, conclude that, in general, the long-term change in the share of salaried persons among all employees would be upward in the course of economic growth.

ii. We have no data on long-term movements of salary per salary recipient, and wage per wage earner; but some conjectures can be made. In particular, with the rise in the share of the S sector in the country's labor force, there may be a rise in the proportion of the S sector among all salary recipients much greater than the rise in the proportion of the S sector among all wage earners. But economic growth is accompanied by a decline in the relative income per worker in the S sector (see Paper II, p. 47 and Table 22, pp. 48-49). The combination of a greater increase in the proportion of the S sector among salary recipients than among wage earners, with the downward trend in the relative income per worker in the S sector, may easily result in a decline in the countrywide ratio of salary per salaried employee to wage per wage earner. And if these conjectures are plausible, the downward movement in the ratio may offset, partly or fully, the upward trend in the share of salaried persons among all employees; and thus produce only a slowly rising or even constant share of salaries to the sum of salaries and wages. Indeed, even a downward trend in the ratio of salaries to compensation of employees might be possible.

And yet, while no firm assertions can be made concerning the long-term changes in the shares of wages and of salaries in compensation of employees (we assign "other" income to wages), it is unlikely that over the long periods when the proportion of salaried workers among all employees rose so much, the share of salaries did not also show some long-term rise. To illustrate, in

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21. See Historical Statistics of the United States, 1789-1945, Washington, 1949, Series D 77-89, p. 65.

France, the share of salaried workers among all employees multiplied tenfold between 1851 and 1946--from 2.3 to 23.3 percent. For the share of salaries in compensation of employees not to have increased, the ratio of salary per salaried employee to wage per wage earner in 1946 should have been less than a tenth of the ratio in 1851--too marked a downward movement to be probable. Likewise, in Germany the share of salaried persons among all employees more than tripled from 1882 to 1939; in Switzerland it more than doubled between 1900 and 1950; and in the United States it tripled between 1870 and 1950. It is unlikely that any long-term declines in the ratio of salary per salaried employee to wage per wage earner, if they occurred, were as large relatively as the rises in the share of salaried workers among all employees; and it is, therefore, likely that the long-term trend in the share of salaries in compensation of employees was upward, and that in the share of wages in compensation of employees was downward.

iii. We come now to the long-term trends in the labor or wage share, about which so much has been written--partly because of the general interest in the fortunes of labor in a class-conflict conscious society; partly because of casual observations like that by J. M. Keynes on the presumptive stability of the wage share both for Great Britain and the United States and the apparently "miraculous" character of the result; partly because of an attempt to use the wage share as a measure of the degree of monopoly, on the general ground that wages represent the truly variable component of costs.[22]

If the labor share means the share of both wages and salaries, i.e., essentially compensation of employees, in national income--and there has been confusion between the labor share thus defined and the wage share, i.e., the share of wages (and other perquisites of wage earners alone) in national income--then the long-term trend in that share has already been discussed. It

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22. The literature is large, and only a few items can be cited. For the Keynes statement see his "Relative Movements of Real Wages and Output", The Economic Journal, Vol. 49, 1939, pp. 48 ff. For the Kalecki interpretation see his Essays in the Theory of Economic Fluctuations, London, 1939, Ch. I. Kalecki's thesis was criticized severely, and on adequate grounds, by John T. Dunlop, Wage Determination under Trade Unions, New York, 1944, particularly Ch. VIII, pp. 149-192; by Fritz Machlup, The Political Economy of Monopoly, Baltimore, 1952, pp. 517-519; and by A. Mitra, The Share of Wages in National Income, Rotterdam, 1954. See also Kurt W. Rothschild, "Der Lohnanteil am Gesamteinkommen", Weltwirtschaftliches Archiv, Vol. 78, Heft 2, 1957, pp. 157-202, and the literature cited therein; and in particular R. M. Solow, "A Sceptical Note on the Constancy of Relative Shares", The American Economic Review, Vol. XLVIII, No. 4, September 1958, pp. 618-631, which appeared after the present paper was finished and which suggests conclusions similar to some of those found here.

It is perhaps ungracious but only honest to confess that the discussion attributing empirically founded stability to the wage share, or viewing it as a significant measure of the degree of monopoly, betrays lack of familiarity with the data available for a variety of countries and with the structure of the economy as reflected in industrywide, let alone countrywide, ratios. In the text we try to state briefly the little we do know, or can reasonably infer.

is quite generally upward in the course of economic growth--at least on the basis of the data that we have back to the middle of the 19th century and with, at present, the single apparent exception of the United Kingdom before World War I, where the reduction of the share of the A sector and hence also of the number of entrepreneurs in total labor force may well have been completed by the third quarter of the 19th century.

• The trend in the wage share proper, i.e., the share of wages and other perquisites of wage earners in the national income total, is the product of several fractions with conflicting trends: the share of wages in compensation of employees which may decline, as our discussion just suggested; the share of compensation of employees in participation income which tends to be secularly rising; and the share of participation income in national income which tends to be constant or rising. There is, on the whole, little question that during the recent periods, when the share of participation income in national income and the share of compensation of employees in participation income were rising, the wage share, i.e., the percentage proportion of wages in national income, was also rising. The situation in earlier decades, when the share of participation income in national income was constant, is a matter of conjecture: in some countries and some periods, the rise in the share of compensation of employees in participation and hence in national income may have outweighed the decline in the share of wages in compensation of employees, causing the wage share to rise; whereas in other countries and periods, the rise in the share of compensation of employees in participation and hence in national income may have been outweighed by the decline of the share of wages in compensation of employees, causing the wage share to decline; and finally in still other countries and periods the conflicting trends may have offset each other, producing a stable wage share. Stability of the wage share, like the stability of many other economic statistics, if and when observed, is due to the balancing of conflicting effects of the underlying determinants; and its occurrence and continuity depend upon the occurrence and continuity of that balancing. It is clear from the figures already cited that the stability of the wage share in the United Kingdom, if present, was an exceptional and temporary phenomenon; that the apparently stable share in the United States was that of wages and salaries--and it has been replaced in subsequent revision by a long-term rise; and that long-term stability of the wage share has not been observed for any other country.

But most important, in concluding this paper, is the question of whether a measure of the labor or wage share really has much meaning. The doubts expressed in the discussion above and reiterated here have little to do with the possible errors in the underlying statistics. They stem rather from the impression that the concept itself can have meaning only upon the most orthodox Marxian interpretation of the labor class as the sole producer of national income, the identification of the wage (or wage and salary) earning group with the labor class, and the corresponding use of the wage or labor share as a fraction that is a complement to the exploitation ratio. Alternatively, the wage or wage and salary ratio can have meaning only if it is assumed to be the share of a large and constant fraction of the lower income earners in our society--so that changes in it are assumed to reflect trends in the inequality of the distribution of income between the poor and the rich. Clearly, neither of these interpretations is tenable; and it is difficult to think of other interpretations that would assign real meaning to the wage share, the proportion of income received by a group that cannot be clearly identified and one that, in any case, accounts for a changing proportion of the labor force; or to the wage and salaries share, since this proportion is also received by a changing proportion of the labor force, with a constantly changing mix of skill and training, and with a constantly changing ratio between the supply of labor and capital used in the productive process.

APPENDIX A

THE SHARE OF INCOME FROM ASSETS IN THE U.S.S.R.

Table 1 includes no country with the type of organization, exemplified by the U.S.S.R., in which individual freedom to operate productive economic units is replaced by government monopoly of means of production and a centrally directed plan of economic operation. Under such conditions can at least an approximate distribution be made of the national income by types of income roughly similar to those distinguished in Table 1?

An attempt at such a distribution is presented in Appendix Table 1. Formally, no problem arises in distinguishing wage and salary payments and other types of payment made to households in return for their participation in economic production. There is some question whether the entrepreneurial income in line 2 is similar to incomes of unincorporated enterprises in Table 1: much of the farm income originates on collective farms, which are hardly comparable with the independent unincorporated firms in a free economy, and such entrepreneurial income is hardly likely to have the same meaning and role under conditions of centralized planning as in an economy much less rigidly controlled. This comment, of course, also applies, to some degree, to wages and salaries; but if comparisons are to be made, the structural distinctions between compensation of employees, incomes of self-employed, and incomes from assets in both types of countries must be assumed to have some elements of similarity.

The real difficulty arises in attempting to approximate the income from assets. Property income received by households is limited in the U.S.S.R., at least in these estimates, to net rent on owner-occupied dwellings and interest receipts (on government debt, included here as in Table 1). The accounts also show the net profit retained by economic organizations, to which we add direct taxes imposed on such economic organizations and from which we subtract government subsidies offsetting losses. These items (lines 6-8) may be considered parallel to the net income, direct taxes, and gross income of corporations--with the significant difference that these economic organizations are strictly controlled by the centralized government mechanism.

This still leaves us with the question of the role of government proper through its disposition of direct taxes (on households) and particularly of the huge indirect taxes. For countries of the type included in Table 1 one can make the general assumptions that: (a) the value of direct services provided by governments to ultimate consumers does not exceed the direct taxes paid by the latter (taken in the aggregate); (b) taxes other than direct taxes on corporations are not used by governments for additions to productive capital stock within the country. On these assumptions, inclusion of direct taxes of households in incomes of households and exclusion of direct services to households by government introduces only a limited error in approximating the true factor payments involved; and that error is likely to be an overstatement of the payments, since direct benefits to all individuals may fall far short of direct taxes paid by them. Nor does the failure to estimate government savings result in a major understatement

Appendix Table 1.
An Approximate Distribution of National Income of the U.S.S.R. by Type of Income, 1937, 1940, 1944, 1948 (Billions of Rubles)

	1937 (1)	1940 (2)	1944 (3)	1948 (4)
1. Wages and salaries	115.0	173.1	211.0	328.3
2. Farm and artisan income	60.4	109.6	88.0	141.3
3. Imputed net rent on owner-occupied dwellings	4.0	6.0	8.0	10.5
4. Interest receipts	0.9	1.4	3.3	1.8
5. Total received by households (incl. statistical discrepancy)	184.7	298.0	321.5	502.3
6. Net income retained by economic organizations	11.0	12.6	9.2	18.6
7. Net direct taxes on economic organizations	2.6	10.3	7.9	-22.5
8. Gross income of economic organizations (6 + 7)	13.6	22.9	17.1	-3.9
9. Subtotal (5 + 8)	198.3	320.9	338.6	498.4
10. Net investment, financed by indirect taxes	31.3	18.4	-17.8	116.9
11. Communal services plus other transfers minus direct taxes of individuals	31.7	35.1	3.9	76.7
12. National income (9 + 10 + 11)	261.3	374.4	324.7	692.0

Source: Abram Bergson and Hans Heymann, Jr., Soviet National Income and Product 1940-48, Columbia University Press, New York, 1954, Tables 3 and 4, pp. 20-23.

Line 1: includes wages of farm labor (on state farms, MTS, etc.), money payments to collective farmers on labor-day basis, salaries of collective farm executives, premiums, nonfarm wages and salaries, and military pay and subsistence to armed forces. Pensions and allowances, stipends, and scholarships are excluded.

Line 2: includes net money income from sale of farm products, net farm income in kind, incomes of artisans, and other money income currently earned.

Line 5: includes total income currently earned and interest receipts.

Line 6: includes net income retained by collective farms and retained profits of state and cooperative enterprises.

Line 7: the sum of taxes on incomes of collective farms, payments from profits of state enterprises to the government budget, and taxes on incomes of cooperative organizations minus allowance for subsidized losses.

Line 10: gross investment minus depreciation, minus entries in line 8, and minus net savings of households, thus representing net investment financed out of taxes paid by households (or other sources of revenue other than direct taxes on economic organizations).

Line 11: communal services, largely on health and education plus transfer outlays on pensions and allowances, stipends, and scholarships minus direct taxes paid by households.

of the national income. No such assumptions can be made with respect to the U.S.S.R., where communal services provided by the governments (or by the economic organizations controlled by them), which are largely direct services to households, may exceed substantially direct taxes paid by the latter; and where a large proportion of all taxes is used, through the government mechanism, to finance net investment.

These additional items in national income in the U.S.S.R. are given in lines 10 and 11. Except in 1944, the government added substantially to the income of households out of the indirect taxes on them. Also, except in 1944, the general government financed a substantial part of net investment out of what, for the present purposes, are assumed to be indirect taxes (since all direct taxes are accounted for in lines 7 and 11). [1]

On the basis of these estimates we can derive the share of income from assets in the total national income of the U.S.S.R. If we omit 1944, a year affected by the exceptional circumstances of war, and take lines 3 (net imputed rent), 4 (interest payments), 8 (gross income of economic organizations), and 10 (net investment financed by government out of other taxes) as income from assets, the share is 19.1 percent in 1937, 13.0 in 1940, and 18.1 in 1948--not too unlike those in Table 1. But whereas property income of households accounts for over one-half of the total share of income from assets in Table 1, in the U.S.S.R. such property income (lines 3 and 4) accounts for less than 2 percent of national income in each of the three years cited. The bulk of income from assets is at the command of the government or its economic organizations. To put it briefly, the government is the main recipient of property income in the U.S.S.R., and the proportionate withdrawal from the persons who contribute by direct participation is not too different in magnitude from that in the "capitalist" countries. Moreover, the central government channels a substantial proportion of the incomes to ultimate consumers (line 11), financing such payments by indirect rather than direct taxes.

Of course, the above calculations are based on a concept of national income as the sum of consumer expenditures and net investment. The structure

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1. The national income totals in Appendix Table 1 are uniformly short of the net national product totals shown in the monograph from which we derived the figures. The shortages amount to 24.7 billion rubles in 1937, 70.6 billion in 1940, 151.7 billion in 1944, and 105.2 billion in 1948 (see Bergson and Heymann, op. cit., Table 5, line 3, p. 24). The difference is due to the fact that national product as defined in the monograph includes in finished product all government expenditures on goods--government administration, NKVD, and defense. In the definition used here such expenditures are treated as intermediate products or costs. The sum of these items, of which defense is by far the largest, amounts to 24.9 billion rubles in 1937, 70.6 billion in 1940, 151.7 billion in 1944, and 105.2 billion in 1948. The minor discrepancy between this sum and the total shortage in 1937 is due to rounding.

would be different if we were to change the concept, for example, by including defense outlay. In this case, line 10 in Appendix Table 1 would read "net investment and defense, financed by indirect taxes"; the amounts for 1937, 1940, and 1948 would be (in billions of rubles) 48.8, 75.1, and 183.2; and the national income totals would be correspondingly 278.8, 431.1, and 758.3. The percentage share of income from assets would then become 24.1, 24.4, and 25.3. With this definition, the share would be somewhat higher in the U.S.S.R. than in other countries; and, naturally, any further "grossness" in the national income concept would tend to raise the share of income from assets in the hands of government all the more.

APPENDIX B

SUMMARY OF DATA ON THE RATIO OF NATIONAL (OR STATE) WEALTH TO NATIONAL (OR STATE) INCOME

This appendix presents a brief summary of data on the ratio of wealth to income for nations and for states. No attempt at an exhaustive combing of the literature has been made, and we doubt that such a search would uncover any significant material that would modify the broad conclusions suggested below. We have concentrated on the relatively easily available reference sources, and attempted to reduce some of their possible defects for the present purposes.

The summary covers material for a number of countries and for the states within this country.

1. Data for International Comparisons

The first reference source that can be used here is Michael G. Mulhall's work on wealth and income, the results of which, for 1894-95, are presented in Industries and Wealth of Nations (London, 1896). Mulhall's estimates are consistent in that they follow fairly uniform principles for the several countries included; they appear to reflect wide and intelligent use of the available data; and, when rough checks can be made (as in the case of national income, or what he calls "earnings") by comparison with recent estimates (for the same years), they indicate that Mulhall's data for the 1890's (if not for the earlier years) are fairly trustworthy as indices of the broad orders of magnitude.

Mulhall estimates national income by applying standard percentages to gross output figures; e. g., earnings in agriculture are 60 percent of gross annual product; earnings in public service are 50 percent of "national revenue" (by which he means receipts of government) and so on (op. cit., p. 11). The gross output or receipt figures are derived directly from available statistics. Total national wealth is estimated by similarly rough but consistent procedures and is broken down into ten components: land, cattle, farm implements, houses, furniture, railways, factories, bullion, merchandise, and sundries. For our purposes furniture (including all furnishings), insofar as it is in the households (and this is Mulhall's meaning), should be omitted. Sundries, according to Mulhall, include "all other components of wealth, and in the present work are estimated at 20 percent of the total, because in the case of France they form that ratio. In all cases, meantime, when Probate returns enable us to determine the exact amount of wealth, as in the United Kingdom, the item of Sundries will be found simply to express the balance unaccounted for or undefinable" (op. cit., p. 12). Consequently, for some countries "sundries" is the difference between wealth accounted for under the nine specific headings and a total based on inheritance and relevant data; for others, it is simply a 20 percent addition to the other items.

As Mulhall indicates, some components of wealth are derived from the income estimates themselves. "Land is capitalised at thirty times the annual assessed value" (meaning income, p. 11). "Houses are capitalised at 16 1/2 times the rental" (p. 12). On the other hand, some items, like railways, are put down at cost of construction; and others, like factories, are valued at one-third of their gross annual output. Granted the crudity of the procedure, there are no grounds for rejecting the estimates--so long as the rates of "capitalization" approach the commonly observed practices, and so long as the other rates and bases are linked with some minimum of empirical data. Even if all the components of wealth were estimated by capitalizing income flows, we would still accept the results provided that the rates corresponded to market practices --for we would then be deriving a properly weighted wealth/income ratio.

Whether or not one uses Mulhall's data is a matter of judgment for the investigator. My own experience with them, having attempted to use and check them on various occasions, is that by and large they are reliable enough for broad orders of magnitude. In fact, for international comparisons they have some advantage over collections of data by different investigators for different countries, following different standards of reliability, and often employing different concepts. In this respect, Mulhall's data are preferable to more recent compilations, e. g., those of Sir Josiah Stamp and Colin Clark which are discussed briefly below.

The estimates can be used for nineteent European countries (if we distinguish between Austria and Hungary, and among Rumania, Serbia, and Bulgaria within the Danubian states) and five countries overseas (the United States, Canada, Australia, Union of South Africa, and Argentina). They are thus essentially the European countries and their overseas offshoots. All of Asia and Africa, and practically all of Latin America, are excluded. The number of countries could be increased by subdividing some of the countries (e. g., the German Empire among the various major Länder, or Australia, which here includes New Zealand, into the separate states); but this would add little to our analysis.

For each country we obtained three ratios to earnings (or national income): the ratio of total wealth, the ratio of wealth excluding furniture and sundries, and the ratio of wealth excluding land also. The last ratio, for reproducible wealth, is somewhat too limited, for it should include capital investments abroad, which Mulhall provides only for the United Kingdom and France. The ratio of total wealth to income is too broad since it includes consumers' durable goods and possibly some duplication in the sundries item. The ratio of wealth excluding furniture and sundries to income is closest to what we would want for the analysis of income-yielding wealth, except that it is slightly too small for the international creditor countries and perhaps too large for the international debtor countries.

We grouped the countries by descending income per capita--using Mulhall's data throughout--and for each group derived unweighted arithmetic means for all the relevant measures: income per capita and the three wealth/income ratios. The results are shown in Appendix Table 2, separately for the groups of European countries alone and for those distinguished among all twenty-four countries.

a. The ratio of <u>total</u> wealth to income for the European countries varies little among countries grouped by income per capita (column 3). Inclusion of the

Appendix Table 2.
Ratios of National Wealth to National Income, Countries Grouped by Income per Capita, 1894-1895

Groups of Countries	Number of Countries (1)	Average Income per Capita (£) (2)	Average Ratio of Wealth to Income: Total Wealth (3)	Excl. Furniture and Sundries (4)	Also Excl. Land (5)
Nineteen European Countries					
I	5	29.7	7.5	5.1[a]	3.0[a]
II	5	21.0	6.1	4.4	2.7
III	5[c]	14.5	7.2	5.3	2.6
IV	5[c]	12.0	7.2	5.3	2.4
Twenty-four Countries					
I	6	37.8	6.3	4.4[b]	2.9[b]
II	6	24.5	6.8	4.9	2.9
III	6	15.6	6.9	5.0	2.6
IV	6	11.8	7.0	5.2	2.6

a. If capital investments abroad for the United Kingdom and France are included, the average becomes 5.5 in col. 4 and 3.5 in col. 5.
b. Averages in col. 4 and 5 exclude the United States and therefore cover five countries. The inclusion of capital investments abroad for the United Kingdom and France raises the average to 4.8 in col. 4 and to 3.3 in col. 5.
c. Rumania is included in both groups III and IV.
Source: Michael G. Mulhall, Industries and Wealth of Nations, Longmans, Green and Co., London, 1896. For derivation see text.

overseas countries adds units with high income per capita but low wealth/income ratios; and as a result, the ratio of wealth to income rises as per capita income declines. But this does not mean that the association would remain negative if the sample were larger.

b. Similarly, the ratio of wealth excluding furniture and sundries to national income varies little as we move down the array of countries by income per capita (col. 4). The allowance for the net foreign investments of the United Kingdom and France would not affect the finding for the sample limited to European countries; and would reduce the rise in the ratio for the sample of all countries. By and large, there is no association, or a slight negative association, between per capita income and the ratio of income-yielding wealth, including land, to income.

c. The picture is reversed when we exclude land (col. 5). The ratio of reproducible wealth to income is higher in the high income countries. This is true even when the overseas countries are included, particularly if we allow for the net capital investment of the United Kingdom and France in group I (although this allowance would be partly offset by the net international debt of the United States, Canada, and Australia, not now deducted). The range in this positive association, however, is not very wide.

APPENDIX B

Our second reference source is Sir Josiah Stamp's paper, "The Wealth and Income of the Chief Powers", and relates to the year 1913-14, about two decades later than the date of Mulhall's estimates. Fewer countries are covered by Stamp; and, what is far worse, the estimates are the work of different scholars and we have little assurance that they are consistent. In particular, for a number of countries Stamp provides national wealth totals but no income estimates; for some countries his income estimates are widely off the mark, judging by recent and more acceptable figures; and the components of wealth that he distinguishes are far from uniform.

For the present purposes it did not seem worth while to undertake a laborious search through Stamp's original sources in an attempt to check and make the wealth estimates more comparable--particularly since this was Stamp's main aim (he was much less interested in the income totals) and most of his discussion deals with the wealth estimates proper. We have, therefore, accepted them. For most countries they include furniture, etc., which should be excluded; but since the share of furniture in the few countries for which it is shown separately varies from only 2 to 10 percent of the total, its retention cannot affect our results significantly. The estimates do include net capital investment abroad; and for ten of the seventeen countries covered, the value of land is shown separately.

We did, however, adjust some of the national income estimates. Those used by Stamp for Spain, Canada, and Japan were all gross underestimates and have been replaced by figures from recent sources. We also provided income estimates for a number of countries for which Stamp had not given any. National wealth and national income estimates were thus assembled for seventeen countries, thirteen in Europe and four overseas. The one country included in Stamp's paper that had to be omitted was Argentina, since no national income estimate for 1914 could be found.

We then calculated the total wealth/income ratio for each country; grouped the countries by descending income per capita; and calculated the unweighted arithmetic means for the various groups.

The results are more or less similar to those for 1894-95 (Appendix Table 3). In general, there is no association between the wealth/income ratio and income per capita. The ratios in column 3 are slightly lower than those in Appendix Table 2, column 3, but are about the same size as those in column 4 of that table. But no significance can be attached to the comparison of levels between the two points of time, given the differences in the bases of the estimates, the trends in price levels, and the sample of countries.

For ten countries we can eliminate land. We calculated the ratio of land to total wealth, and averaged the ratios for the few countries in the groups distinguished (in the two-group classification), assuming the averages typical of the group. We then applied them to the ratios in column 3 to derive the ratios for reproducible wealth (including net capital investments abroad) to national income. Again the finding agrees with that for 1894-95: the ratio of reproducible wealth to income declines as we move down the array of income per capita. This positive association between the ratio of reproducible wealth to income and income per capita is offset by the negative association for the ratio of land to national income, thus producing a lack of correlation (and even possibly negative correlation) between the total wealth/income ratio and per capita income.

Appendix Table 3.
Ratios of National Wealth to National Income, Countries Grouped by Income per Capita, 1913-1914

Groups of Countries	Number of Countries (1)	Average Income per Capita (£) (2)	Average Ratio of National Wealth to National Income (3)	Average Percentage of Land in Wealth (4)	Avg. Ratio of Wealth Excl. Land to Income (5)
Thirteen European Countries					
Two Groups					
I	6	40.8	5.4	20 (4)[c]	4.3
II	7	24.0	5.7	34 (4)[c]	3.8
Three Groups					
I'	5[a]	42.0	5.6		
II'	5[a]	32.6	5.0		
III'	5[a]	21.0	5.5		
Seventeen Countries					
Two Groups					
I	8	48.8	5.6	23 (5)[c]	4.3
II	9	23.6	5.5	36 (5)[c]	3.5
Three Groups					
I'	6[b]	52.3	5.5		
II'	6[b]	35.8	5.8		
III'	6	18.8	5.4		

a. Belgium is included in groups I' and II' and Norway in groups II' and III'.
b. Switzerland is included in groups I' and II'.
c. Figures in parentheses indicate the number of countries included in the average.

Sources: The wealth estimates are from Josiah Stamp, Studies in Current Problems in Finance and Government, P. S. King and Son, London, 1924, specifically "The Wealth and Income of the Chief Powers" (1914) reprinted in the volume. Income estimates are those given by Stamp (when they were found acceptable by comparison with recent figures) or more recent figures from Colin Clark, The Conditions of Economic Progress, 3rd ed., Macmillan and Co., London, 1957.

It would have been interesting to make a comparison of the type summarized in Appendix Tables 2 and 3 for some later year. But the recent neglect of national wealth leaves us too few estimates to work with. Perhaps when the current revival of work on national wealth and capital formation yields more results, the situation will be changed. The scanty list in Appendix Table 4 derived from Colin Clark's latest compilation clearly indicates the poverty of wealth data for recent years--even some of those given are of uncertain base or origin.

The ratios are almost all of domestically located reproducible wealth to net national product. For our purposes they are too small since they exclude

Appendix Table 4.
Ratios of National Wealth to Net National Product, Selected Countries, Post-World War I Dates

Country	Year	Ratio to National Income: Dom. Located Reproducible Capital	Land	Net Foreign Assets	Total (2+3+4)
	(1)	(2)	(3)	(4)	(5)
1. United States	1929	3.02	1.25	0.18	4.45
	1939	3.38	1.14	0.26	4.78
	1948	2.54	0.58	0.18	3.30
2. Canada	192º	3.76	n.a.	n.a.	n.a.
3. Australia	1929	4.01	"	"	"
	1942	4.37	"	"	"
	1949	3.67	"	"	"
4. United Kingdom	1928	3.53	"	0.21	"
	1938	2.68	"	n.a.	"
	1953	2.55	"	"	"
5. Netherlands	1939	3.31	"	1.48	"
6. Norway	1939	4.56	"	n.a.	"
7. Italy	1928	1.86	"	"	"
8. Hungary	1928	3.45	"	"	"
	1938	5.58	"	"	"
9. Mexico	1940	2.10	"	"	"
10. Surinam	1939	3.9	"	"	"
	1950	3.3	"	"	"
11. Egypt	1939	3.22	3.93	"	"
12. Japan	1919	8.48	n.a.	"	"
	1924	7.76	"	"	"
	1930	5.31	"	"	"

Source: Colin Clark, Conditions of Economic Progress, 3rd ed., Macmillan and Co., London, 1957, Table I, pp. 572-580.

land and net foreign investment; and the omission of land is particularly significant. But the picture, sketchy as it is, shows no clear association between income per capita and the ratio of reproducible wealth to income. The ratios for countries like Egypt, Surinam, and Hungary are just as high as, if not higher than, those for the United States and the United Kingdom; and if the ratio for Italy is low, that for Japan is quite high. All that the table can be safely taken to suggest is that if there is any positive association between the total wealth/income ratio, or even the reproducible wealth/income ratio and income per capita, it is too slight to be evident in the very scanty sample of somewhat shaky recent figures.

2. Data by States

From a recent study, the major results of which are reported in the volume cited in the notes to Appendix Table 5, we have data on the stock of wealth located within each state in this country, or owned by its residents, for two dates, 1880 and about 1920 (for 1900, the intermediate year also shown there, the estimates were derived largely by interpolation between 1880 and 1920). Wealth in this case includes consumers' goods, which should be excluded; but the component is of limited weight, and not likely to affect significantly the differences in the wealth/income ratio among states. The distinction between wealth located and wealth owned is necessarily crude: for 1919-21, for non-agricultural wealth, it is derived by relating data on locus of receipts of property incomes (largely from income tax returns) to the valuation of various types of tangible assets in the Census of Wealth for 1922, while for agricultural wealth location and ownership are assumed to be identical by states; for 1880 it is essentially an estimate by the Census statistician and must be taken largely on faith since no details are available. However, comparison with the more recent data encourages some confidence in these earlier estimates.

The income totals used here are, of course, personal income--excluding undistributed profits of corporations; and for these years excluding also transfer payments, whose relative weight was negligible. Since the estimates of property income for 1880, prepared by Dr. Easterlin, are not independent of the estimates of wealth (those for 1919-21 are), they are not given in Appendix Table 5.

The conclusions suggested by this table follow.

a. In 1880 the ratio of wealth owned to total personal income received was lowest in group I, states with highest per capita income; rose to a peak in group IV; and declined again in groups V and VI. Such apparently negative association between the wealth/income ratio and per capita income is quite unusual but can be easily explained.

In 1880 there were several states in the Mountain and Pacific regions which were sparsely settled; in which men of working ages constituted an unusually high proportion of total population; in which per worker wages were quite high, by countrywide standards, because these workers were engaged in exploiting rich mineral and other resources on the frontier outposts. Under such conditions, income per capita of total population was quite high relative to that in other states; but wealth owned by these working pioneers and, to some extent, even wealth located in these states, was not high relative to their income.

b. The ratio of wealth owned to wealth located is lowest in group I, dominated by the pioneering states described in the preceding paragraph; and then rises to higher levels in the other groups. As a result, the average ratio of wealth located to total personal income received, in line 3, is substantially different from the ratio in line 1. It is still lowest in group I and rises to group IV, but the range is far narrower than in line 1.

c. For further analysis of the 1880 data we eliminated the states that were thinly settled and on the frontiers and confined our comparisons to those that constituted the more settled part of the economy. For these 35 states, the

Appendix Table 5.
Ratios of Wealth (Owned and Located) to Personal Income Received, States Grouped by Personal Income per Capita, United States, 1880 and 1919-21

	Groups of States by Personal Income per Capita					
	I	II	III	IV	V	VI
			1880			
All States (46)						
1. Ratio, wealth owned to total income received	2.64	4.64	4.72	4.82	4.20	4.41
2. Ratio, wealth owned to wealth located	0.67	1.01	0.89	0.89	0.85	0.91
3. Ratio, wealth located to total income received	3.98	4.53	5.26	5.47	5.05	4.86
Excluding Pioneer States (35)						
4. Ratio, wealth owned to total income received	5.08	5.11	4.97	4.50	4.74	4.37
5. Ratio, wealth owned to wealth located	1.10	0.98	0.92	0.89	0.92	0.90
6. Ratio, wealth located to total income received	4.64	5.23	5.45	5.21	5.16	4.88
			1919-21			
All States (48)						
7. Ratio, wealth owned to total income received	4.98	5.06	4.32	4.98	4.51	3.38
8. Ratio, wealth owned to wealth located	1.09	1.05	0.77	0.76	0.83	0.73
9. Ratio, wealth located to total income received	4.95	4.95	5.69	6.73	5.69	4.65
10. %, property income in total income	20.6	20.5	15.6	17.1	15.8	12.5
Excluding 1880 Pioneer States (35)						
11. Ratio, wealth owned to total income received	5.39	5.14	4.60	5.10	4.24	3.24
12. Ratio, wealth owned to wealth located	1.27	1.12	0.87	0.86	0.80	0.70
13. Ratio, wealth located to total income received	4.30	4.64	5.34	6.16	5.37	4.65
14. %, property income in total income	22.8	21.6	17.1	18.2	15.7	12.2

All the data on wealth and income received in 1880 are from Richard Easterlin's section in Everett S. Lee, Ann Ratner Miller, Carol P. Brainerd, and Richard Easterlin, Population Redistribution and Economic Growth, United States, 1870-1950, Memoirs of the American Philosophical Society, Vol. 45, Philadelphia, 1957, pp. 703 ff., in particular Table 4.6 relating to estimates of

(Continued on next page)

ratio of wealth owned to total income received (line 4) shows distinct positive association with per capita income: it is highest in groups I and II and then declines to its lowest level in group VI. This association is due, in large part, to the positive association between the ratio of wealth owned to wealth located and per capita income (line 5), which is highest in group I, and then drops down from 1.1 to about 0.9 in groups III-VI. When this factor is eliminated, the positive association with per capita income disappears: the ratio of wealth located to total income is low in group I, rises to a peak in group III, and then declines (line 6). While the average is somewhat higher in group VI than in group I, the difference is too slight to warrant the finding of a negative association; and no significant association is perhaps the safest conclusion.

d. By 1919-21 the states in the Far West that were thinly settled had passed their pioneer stage and become integral elements of the settled area. For this reason, the full array of 48 states yields results that are quite similar to those shown for 1880 by the 35 states. Here we find again that the ratio of wealth owned to total income is positively associated with per capita income--highest for groups I and II and lowest for group VI (line 7); that this is due almost exclusively to the positive association between per capita income and the ratio of wealth owned to wealth located (line 8); and that the ratio of wealth located to income received (line 9), shows no significant association with per capita income. Here again the average ratio of wealth located to total income received rises from groups I and II to a peak in group IV, and then declines to the lowest level in group VI, but the difference between groups I and II, and group VI is too small to suggest significant association.

e. While the pioneer states had become more settled by 1919-21, they were different from the rest of the economy even then, and their exclusion points up the associations. Thus for the 35 states positive association between both the ratio of wealth owned to income received and the ratio of wealth owned to wealth located and per capita income becomes more prominent, in the sense

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wealth owned and located. Income received in 1919-21 is "current income" derived from Maurice Leven, Income in the Various States, National Bureau of Economic Research, 1925, Tables XLVI-XLVIII, pp. 260-265.

The ratios were calculated for each state and unweighted arithmetic means taken for the groups in columns 1-6.

For lines 1-3, there are only 46 states because Oklahoma had not yet been settled, and the two Dakotas were one territory. Seven states are, therefore, included in groups III and IV, and eight in each of the other groups.

For lines 4-6 we eliminated all states that were barely settled in 1880; in which the proportion of men in working ages to total population was unusually high; and in which general economic conditions suggested an early pioneering era, largely in mining. The eleven states excluded are two in the Pacific region (Washington and Oregon); all in the Mountain region (Montana, Idaho, Wyoming, Utah, Nevada, Colorado, Arizona, and New Mexico); and the joint Dakotas.

For lines 11-14 we eliminated the states excluded from lines 4-6. This meant omission of thirteen states (Oklahoma being added and the Dakotas counting as two).

In lines 4-6 and 11-14, six states are included in each group, except group III which includes only five states.

The District of Columbia was omitted throughout.

that the ranges of both are wider: in line 11, the range is from 5.4 in group I to 3.2 in group VI, whereas in line 7 it is from about 5 to 3.4, and in line 12 the range is from 1.27 to 0.70, whereas in line 8 it is from 1.09 to 0.73.

In relation to the findings indicated by international comparisons in the first section of this appendix, the evidence for the states of this country suggests two inferences. First, among nations, particularly if limited to independent states, the relative differences between wealth located and wealth owned are likely to be far smaller than among states in this country. We can therefore interpret our findings in the first section to mean that there is no distinctive association between per capita income and the total wealth/income ratio, whether wealth owned or located. With this finding for the international comparisons, the evidence for the interstate comparisons suggests that, as in the international comparisons, there is no distinct association between the ratio of wealth located to income received and per capita income; but, in contrast with the international comparisons, there is a positive association between the ratio of wealth owned to total income and per capita income.

Second, the distinctive behavior of pioneer units, observed particularly for the state data in 1880, has some relevance to international comparisons. The inclusion of such units tends to make for an association of low ratios of wealth owned to total income with high per capita incomes; whereas in the settled areas the association tends to run in the opposite direction. This means that in any international comparison, the correlation between the ratio of wealth owned to income received and per capita income will depend upon the sample of countries. If it is dominated by old and settled countries, the association may be positive; if it is a mixture of settled and of relatively young and empty countries, the two opposite elements may cancel out and no significant association may be shown--or there may even be some semblance of negative association. The same conclusion, perhaps less firm, may be reached concerning the association between the ratio of wealth located to income received and per capita income.

APPENDIX C

DETERMINATION OF THE COUNTRYWIDE RATIO OF INCOME PER ENTREPRENEUR TO INCOME PER EMPLOYEE

Income refers to participation income alone. All per worker (per entrepreneur or per employee) incomes are expressed as relatives of countrywide income per worker; and the arithmetic is in terms of two divisions of the economy, the A and the non-A sectors.

Designate:

a--income per entrepreneur, A sector
b--income per entrepreneur, non-A sector
q--share of A sector in entrepreneurs
r--share of A sector in employees
w--ratio of income per entrepreneur to income per employee, A sector
y--ratio of income per entrepreneur to income per employee, non-A sector
X--ratio of income per entrepreneur to income per employee, country

Then:

$$X = \frac{qa + (1 - q)b}{r\frac{a}{w} + (1 - r)\frac{b}{y}} \tag{1}$$

Designate further:

c--income per worker (entrepreneurs and employees), A sector
d--income per worker, non-A sector
p--proportion of entrepreneurs among all workers, A sector
t--proportion of entrepreneurs among all workers, non-A sector
s--share of A sector in total labor force

Then:

$$a = \frac{cw}{pw + 1 - p} \tag{2}$$

$$b = \frac{dy}{ty + 1 - t} \tag{3}$$

$$d = \frac{1 - sc}{1 - s} \tag{4}$$

$$b = \frac{(1 - sc)y}{(1 - s)(ty + 1 - t)} \tag{5}$$

$$q = \frac{sp}{sp + (1 - s)t} \tag{6}$$

$$r = \frac{s(1-p)}{s(1-p) + (1-s)(1-t)} \tag{7}$$

Substituting the values for a, b, q, and r from equations (2), (5), (6), and (7), respectively, in equation (1), we get the final equation determining X:

$$X = \frac{\left[\frac{sp}{sp+(1-s)t} \times \frac{cw}{pw+1-p}\right] + \left[\frac{(1-s)t}{sp+(1-s)t} \times \frac{(1-sc)y}{(1-s)(ty+1-t)}\right]}{\left[\frac{s(1-p)}{s(1-p)+(1-s)(1-t)} \times \frac{c}{pw+1-p}\right] + \left[\frac{(1-s)(1-t)}{s(1-p)+(1-s)(1-t)} \times \frac{1-sc}{(1-s)(ty+1-t)}\right]} \tag{8}$$

In equation (8), there are six determining variables: s--the share of the A sector in total labor force; c--the relative income per worker in the A sector; p--the proportion of entrepreneurs among all workers in the A sector; t--the proportion of entrepreneurs among all workers in the non-A sector; w--the ratio of income per entrepreneur to income per employee in the A sector; y--the ratio of income per entrepreneur to income per employee in the non-A sector.

The equations set forth above can be generalized for any number of sectors--with a consequent multiplication in the number of variables on the right-hand side of the final equation. Thus, if we distinguished three, rather than two sectors, there would be two variants of s--the shares of two of the three sectors in total labor force; two variants of c--the relative incomes per worker in two of the three sectors; three proportions of entrepreneurs among all workers--one for each sector; and three ratios of income per entrepreneur to income per worker--again one for each sector; or ten variables instead of six. In general, for n sectors, the number of variables would be $[(n-1) + (n-1) + 2n]$, or $4n - 2$.

Even with only six variables, the effects of changes in each upon the countrywide ratio of income per entrepreneur to income per employee are too diverse to permit easy summary. Instead, we assigned specific values to each variable, selected with an eye to the empirical findings, and varied them, again within realistic limits, to observe the effect of the variations on the final result, i.e., the countrywide ratio of income per entrepreneur to income per employee.

The results of these illustrative calculations are given in the exhibit below. They are presented in detail to demonstrate the effects of a change in the value of any one variable on each of the four components of the ratio in equation (1), i.e., the shares of the A and non-A sectors among all entrepreneurs, used as weights for income per entrepreneur in the two sectors; and the shares of the A and non-A sectors among all employees, used as weights for the income per employee in the two sectors. The calculation demonstrates that changes in variables s, c, p, and t result in conflicting movements in the components of both numerator and denominator, and the total effect on the final ratio is a net balance of pluses and minuses; whereas changes in variables w and y effect changes in the final ratio in only one direction.

With the exhibit at hand, the following observations can be suggested:

i. With other variables held constant at the "standard" levels (a convenient departure point rather than a picture of some "normal") in line 1 (i.e., with relative income in the A sector well below 1, and so on), a decline in s, the share of the A sector in total labor force, raises the countrywide ratio of income

per entrepreneur to income per employee. Since s is much larger in the less developed than in the more developed countries, on this account alone we would expect the spread between income per entrepreneur and income per employee to be narrower in the less developed than in the more developed countries. Likewise, with a decline in s over time, we would expect a long-term rise in the ratio of income per entrepreneur to income per employee.

ii. With all other variables held constant at standard levels, a rise in c, the relative income per worker in the A sector, should raise the countrywide ratio of income per entrepreneur to income per employee. Here, because of c, the spread between income per entrepreneur and income per employee should be narrower in the less developed countries; and in the process of a country's economic growth this spread should widen.

iii. With all other variables at standard levels, a rise in p, the proportion of entrepreneurs among all workers in the A sector, reduces the countrywide ratio of income per entrepreneur to income per employee. Since the less developed countries have lower values of p than the more developed countries (see Table 3, line 3), the ratios of income per entrepreneur to income per employee should on this account be higher in the former than in the latter. Likewise, since the long-term trend in p is upward, the resulting long-term trend in the countrywide ratio of income per entrepreneur to income per employee should be downward.

iv. With all other variables at standard levels, a decline in t, the proportion of entrepreneurs to all workers in the non-A sector, reduces the countrywide ratio of income per entrepreneur to income per employee. Since t is higher in the less developed countries than in the more developed (see Table 3, line 4), it should make for a higher countrywide ratio of income per entrepreneur to income per employee in the former than in the latter. Likewise, the long-term decline in t, which accompanies the growth of a country, should result in a downward trend in the countrywide ratio of income per entrepreneur to income per employee.

v. The values of w and y, the ratios of income per entrepreneur to income per employee in the two sectors used in the exhibit, are taken from the data for the United States in Table 4. Data for other countries are not easily available, but it is of interest that those for India--at the other end of the range of countries by per capita income--are not too different: w for India is 2.10 on one basis (Mr. Patel's estimates, cited in footnote 4 in the text), and 2.44 in another (Mr. Gulati's adjustment, cited in the same footnote); y on both bases is 1.12. Thus, for both the United States and India, w is significantly higher than y. If there are significant variations in w and y among countries ranged by per capita income, they are not known to us; nor do we know of any significant trends over time in these ratios. The one series that we do have, for the United States since 1909, shows no significant long-term trend in either w or y (see Appendix Table 18).

vi. Rises in both w and y raise the countrywide ratio of income per entrepreneur to income per employee; and declines in the former result in reductions in the latter. But we can make no substantive inferences from these relations as to the effects on the spread between income per entrepreneur and

APPENDIX C

EXHIBIT SHOWING EFFECTS OF VARIATION IN VALUES OF THE ENTREPRENEUR TO

	Ratio X (1)	Numerator q (2)	a (3)	qa (4)	(1-q) (5)
1. Standard: s=0.4, c=0.7, p=0.5, t=0.3, w=2.0, y=1.5	1.43	0.53	0.93	0.49	0.47
2. Variation in s: s = 0.2	1.47	0.29	0.93	0.27	0.71
3. Deviations from line 1	+0.04	-0.24	-	-0.22	+0.24
4. Variation in c: c = 1.0	1.64	0.53	1.33	0.70	0.47
5. Deviations from line 1	+0.21	-	+0.40	+0.21	-
6. Variation in p: p = 0.8	1.15	0.64	0.78	0.50	0.36
7. Deviations from line 1	-0.28	+0.11	-0.15	+0.01	-0.11
8. Variation in t: t = 0.1	1.16	0.77	0.93	0.72	0.23
9. Deviations from line 1	-0.27	+0.24	-	+0.23	-0.24
10. Variation in w: w = 1.5	1.34	0.53	0.84	0.45	0.47
11. Deviations from line 1.	-0.09	-	-0.09	-0.04	-
12. Variation in y: y = 1.0	1.08	0.53	0.93	0.49	0.47
13. Deviations from line 1	-0.35	-	-	-	-

SIX VARIABLES ON THE COUNTRYWIDE RATIO OF INCOME PER INCOME PER EMPLOYEE

		Denominator					
$\frac{b}{(6)}$	$\frac{(1-q)b}{(7)}$	$\frac{r}{(8)}$	$\frac{a/w}{(9)}$	$\frac{r(a/w)}{(10)}$	$\frac{(1-r)}{(11)}$	$\frac{b/y}{(12)}$	$\frac{(1-r)b/y}{(13)}$
1.57	0.74	0.32	0.47	0.15	0.68	1.04	0.71
1.40	0.99	0.15	0.47	0.07	0.85	0.93	0.79
-0.17	+0.25	-0.17	-	-0.08	+0.17	-0.11	+0.08
1.30	0.61	0.32	0.67	0.21	0.68	0.87	0.59
-0.27	-0.13	-	+0.20	+0.06	-	-0.17	-0.12
1.57	0.57	0.16	0.39	0.06	0.84	1.04	0.87
-	-0.17	-0.16	-0.08	-0.09	+0.16	-	+0.16
1.71	0.39	0.27	0.47	0.13	0.73	1.14	0.83
+0.14	-0.35	-0.05	-	-0.02	+0.05	+0.10	+0.12
1.57	0.74	0.32	0.56	0.18	0.68	1.04	0.71
-	-	-	+0.09	+0.03	-	-	-
1.20	0.56	0.32	0.47	0.15	0.68	1.20	0.82
-0.37	-0.18	-	-	-	-	+0.16	+0.11

income per employee for countries at different levels of per capita income, or for long-term changes in this spread.

Setting aside the effects of w and y, about which we can say little, we can state that both the cross-section range and the long-term trends in the countrywide ratios of income per entrepreneur to income per employee are subject to two sets of conflicting factors. The decline in s and the rise in c, as we move from the less to the more developed countries, or as we move over time in the process of a country's growth, should result in a rising countrywide ratio of income per entrepreneur to income per employee. By contrast, the rise in p and the decline in t, as we move from the less to the more developed countries, or as we move over time in the process of a country's growth, should result in a declining countrywide ratio of income per entrepreneur to income per employee. Consequently, any cross-section differences or long-term trends in the spread between countrywide income per entrepreneur and income per employee is a net balance; and it is quite possible that no significant cross-section differences or long-term trends exist.

APPENDIX D

REFERENCE TABLES ON DISTRIBUTION OF NATIONAL INCOME BY TYPE OF INCOME AND ON PROPORTIONS OF ENTREPRENEURS AND EMPLOYEES IN LABOR FORCE, VARIOUS COUNTRIES, SELECTED YEARS

Appendix Table 6.
National Income, Current Prices, Percentage Distribution by Factor Payments, Selected Countries, Recent Years

Region and Country	Period	Allocated Total as % of National Income	% of Allocated Total						
			Corp. Savings	Direct Taxes on Corps.	Govt. Income from Prop. and Enterpr.	Prop. Income of House-holds	Total Income from Assets (3+4+5+6)	Income of Unincorp. Enterprises	Compensation of Employees
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
I Europe									
1. Austria	1952-56	100.4	2.0	2.6	1.0	n.a.	n.a.	n.a.	58.4
2. Belgium	1952-56	102.6	2.8	1.9	0.4	12.6	17.7	29.8	52.6
3.	1938	100.0	1.9		n.a.	20.0	21.9	21.2	57.0
4. Czechoslovakia	1938	100.1	0.7	-	4.5	9.1	14.3	28.9	56.7
5. Denmark	1950-54	101.5	1.6	1.6	1.5	n.a.	n.a.	n.a.	53.8
6. Finland	1952-56	100.8	2.4[a]	4.7	3.3	4.1[a]	14.5	24.0	61.4
7.	1938	100.0	9.5[a]		n.a.	14.5[ab]	24.0	26.0	50.0
8. France	1952-56	101.6	2.3	2.6	0.8	4.7	10.4	31.1	58.6
9.	1938	100.0	3.9	0.6	0.3	n.a.	n.a.	n.a.	50.0
10. Germany, F.R.	1951-55	100.9	n.a.	3.2	1.7	n.a.	n.a.	n.a.	61.3
11. Germany, pre-World War II	1936	82.4	6.4[a]		n.a.	7.7[a]	14.1	30.8	55.1
12. Greece	1952-56	100.1	n.a.	2.2	0.9	n.a.	n.a.	n.a.	n.a.
13. Ireland	1952-56	102.7	3.2	2.5	1.5	n.a.	n.a.	n.a.	50.4
14.	1938	100.0	3.0	1.5	2.4	n.a.	n.a.	n.a.	50.6
15. Luxembourg	1952-56	101.4	1.3	7.7	1.1	6.5	16.6	26.4	57.0
16. Netherlands	1952-56	102.5	n.a.	5.0	2.2	n.a.	n.a.	n.a.	52.7
17.	1938	102.4	3.8	0.6	3.0	n.a.	n.a.	n.a.	50.0
18. Norway	1952-56	101.1	26.4[c]		0.9	3.1	30.4	12.3[c]	57.4
19.	1938	100.0	27.1[c]		-0.7	11.4	37.8	12.6[c]	49.7
20. Switzerland	1952-56	99.6	5.3	2.5	n.a.	12.7	20.5	18.9	60.6
21.	1938	100.0	2.0	2.5	3.1	22.5	30.1	21.5	48.4
22. United Kingdom	1952-56	104.7	4.6	6.2	0.9	10.0	21.7	9.2	68.9

21.		1938	100.0	2.0	2.5	3.1	22.5	30.1	21.5	48.4
22.	United Kingdom	1952-56	104.7	4.6	6.2	0.9	10.0	21.7	9.2	68.9
	II Asia									
23.	Ceylon	1952-56	101.5	5.7	3.2	2.4	4.8	16.1	37.3	46.6
24.	Hong Kong	1949-52	100.0	13.0	1.8	1.8	6.9	23.5	32.7	43.8
25.	Israel	1952-55	100.0	n.a.	1.4	1.1	n.a.	n.a.	n.a.	59.8
26.	Japan	1952-56	101.4	4.2	3.9	0.9	4.7	13.7	38.4	47.9
27.		1938	100.0	3.0	4.0	2.5	21.0[b]	30.5	30.5	39.0
28.	Philippines	1952-56	100.0	2.4	1.0	0.5	n.a.	n.a.	n.a.	42.3
29.	Taiwan	1952-56	100.3	n.a.	1.9	1.6	n.a.	20.0	38.5	41.5
	III Africa									
30.	Belgian Congo	1952-56	101.0	11.7	4.4	2.7	2.5	21.3	32.7	46.0
31.	Mauritius	1952-56	101.0	6.4	3.8	2.6	17.9	30.7	18.3	50.9
32.	Rhodesia and Nyasaland	1952-56	102.5[d]	8.2	14.2	1.9	n.a.	n.a.	n.a.	58.6
	IV Northern America									
33.	Canada	1952-56	103.1	4.3	6.3	2.5	9.3	22.4	15.9	61.8
34.		1938	102.9	1.9	2.2	2.8	14.2	21.1	19.2	59.7
35.	United States	1952-56	102.8	2.2	6.3	n.a.	11.5	20.0	12.4	67.6
36.		1938	101.8	0.1	1.5	n.a.	16.9	18.5	16.1	65.4
	V Latin America									
37.	Brazil	1951-55	100.4	5.3	1.1	n.a.	9.2[b]	15.6	42.7[e]	41.7[e]
38.	Chile	1950-54	101.1	-1.1	2.2	n.a.	11.1	12.2	42.3	45.5
39.		1940	106.6	6.3	2.7	n.a.	23.9	32.9	22.2	44.9
40.	Colombia	1951-55	100.5	2.2	2.2	n.a.	15.4	19.8	33.1[f]	47.1
41.	Costa Rica	1952-56	100.6	3.1	0.2	0.7	6.6	10.6	28.7	60.6
42.	Cuba	1950-55	103.2	9.4		n.a.	8.7	18.1	18.4	63.5
43.	Ecuador	1951-55	101.9	2.3	1.1	4.5	21.0	28.9	24.0	47.0
44.	Honduras	1951-55	100.2	0.8	1.1	0.4	6.2	8.5	45.0	46.4
45.		1938	100.2	0.6	n.a.	0.8	7.8	9.2	43.7	47.1
46.	Jamaica	1953-55	100.0	2.9	2.0	0.2	12.1	17.2	25.4	57.4
47.	Panama	1953-54	100.6	1.1	2.2	1.7	n.a.	n.a.	n.a.	53.8
48.	Peru	1951-55	100.0	5.0	5.5	n.a.	12.1	22.6	39.6	37.8
49.		1942	100.0	1.6	3.7	-1.1	16.0	20.2	38.4	41.5
50.	Puerto Rico	1952-56	103.3	5.3	1.6	0.6	6.9	14.4	21.1	64.4

(Continued on next page)

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	VI Oceania									
51.	Australia	1952-56	103.0	3.9	4.0	1.7	8.7	18.3	23.0	58.5
52.		1938	107.2	5.9	2.0	4.8	15.0	27.7	16.1	56.1
53.	New Zealand	1952-56	102.6	5.7[a]	5.7	3.2	5.1[a]	19.7	26.0	54.4
54.		1938	103.6	5.5[a]	3.5	4.5	10.4[a]	23.9	20.4	55.7

n.a.: not available.

a. Dividends included with corporate savings.

b. Net of interest on public debt.

c. Income from unincorporated enterprises other than those in agriculture, forestry, fishing, and services included with corporate savings.

d. National income excludes subsistence income.

e. Compensation of employees in agriculture included with income of unincorporated enterprises.

f. Includes savings of public corporations.

Sources: U.N. Yearbook of National Accounts Statistics, 1957, for lines 1, 2, 5, 6, 8, 12, 13, 15, 16, 18, 20, 22, 23, 25, 26, 28-33, 35, 37, 38, 40, 41, 43, 44, 46-48, 50, 51, 53.
U.N. Statistical Papers, Series H, No. 10, for lines 10, 24, 42.
U.N. Statistical Papers, Series H, No. 9, for lines 7, 14, 17, 19, 21, 27, 34, 36, 39, 49, 52, 54.
U.N. Statistical Papers, Series H, No. 8, for lines 9 and 45.
U.N. National Income Statistics, 1938-1948, for line 11.
U.N. National Income Statistics, 1938-1947, for lines 3 and 4.

Appendix Table 7.
Percentage Shares of Entrepreneurs in Labor Force, Total and for Selected Industries, and of Agricultural Labor Force in Total Labor Force, Selected Countries, Recent Years

	Date	Percentage Share of Entrepreneurs in Labor Force								Percentage Share of A Labor Force in Total Labor Force
		Total	A	Non-A	Mining and Mfg.	Construction	Commerce	Transp. and Commun.	Other Services	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
I Europe										
1. Austria	1951	22.1	57.9	13.0	12.1	6.4	26.4	5.4	12.7	20.3
2. Belgium	1947	23.7	79.4	18.2	11.5	24.8	50.0	8.1	16.8	8.9
3. Denmark incl. Faeroe Is.	1950	22.6	49.1	15.1	13.0	19.4	29.7	12.0	9.2	22.3
4. Finland	1950	25.8	59.5	10.3	11.8	8.1	13.1	13.3	6.5	31.6
5. France[a]	1954	25.2	61.9	16.4	10.9	17.2	38.7	4.8	13.6	19.3
6. Germany, F.R.	1950	17.2	52.6	12.2	10.0	12.0	31.8	6.3	9.7	12.6
7. Greece[b]	1951	52.5	86.3	28.7	27.5	25.1	61.7	20.6	18.1	41.2
8. Ireland	1951	30.1	72.2	11.6	11.1	7.5	23.1	8.2	8.9	30.6
9. Italy	1954	31.0	56.5	20.7	18.0	7.4	51.7	17.3	9.3	28.9
10. Netherlands	1947	21.4	51.0	16.3	11.7	21.1	38.8	14.7	9.7	14.7
11. Norway	1950	25.8	70.5	12.6	11.6	18.0	21.4	10.0	8.4	22.7
12. Portugal[c]	1950	22.9	31.6	15.2	15.1	4.5	42.1	7.7	5.8	46.7
13. Spain	1950	25.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
14. Sweden	1950	20.1	64.9	10.4	8.4	11.6	19.8	9.2	7.8	17.9
15. Switzerland	1950	20.3	67.1	13.5	11.8	14.4	22.8	4.3	13.4	12.6
16. United Kingdom excl. Northern Ireland[d]	1951	7.2	31.9	5.9	2.1	9.0	16.0	2.7	6.8	4.9
II Asia										
17. Burma	1953	41.2	59.0	39.2	21.4	18.1	76.1	28.5	20.0	10.2
18. Israel[e]	1956	25.7	42.9	23.2	21.4	15.6	58.2	28.1	11.6	12.8
19. Japan	1950	40.0	87.4	21.6	13.4	25.6	47.9	4.3	19.3	27.9
20. Malaya[d]	1947	46.9	55.3	33.0	32.7	n.a.	62.7	28.1	12.5	62.3
21. Philippines[f]	1948	42.5	57.1	18.5	25.7	2.0	56.9	6.9	4.1	62.2
22. Turkey	1955	65.2	89.0	32.2	33.5	10.9	67.3	28.7	19.3	58.2

(Continued on next page)

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	III Africa										
23.	Egypt	1947	45.0	51.2	37.2	36.3	17.2	76.3	26.3	16.5	56.0
	IV Northern America										
24.	Canada[f]	1951	20.2	70.2	10.0	5.2	18.1	17.1	8.7	9.9	16.8
25.	United States[g]	1950	17.1	70.1	10.4	4.5	17.4	18.5	4.6	10.7	11.1
	V Latin America										
26.	Argentina	1947	24.3	35.7	20.6	21.0	17.7	41.8	12.7	10.5	24.9
27.	Bolivia[h]	1950	34.9	50.7	28.2	33.6	6.2	79.8	13.2	5.8	29.9
28.	Brazil	1950	38.8	53.3	22.2	n.a.	n.a.	46.5	17.0	22.7	53.6
29.	Chile	1952	24.6	28.3	23.1	24.9	13.9	51.7	16.1	13.0	29.5
30.	Colombia	1951	39.3	49.3	28.7	37.5	12.9	58.4	16.6	9.6	51.4
31.	Costa Rica	1950	23.9	28.8	18.6	25.8	4.3	45.1	11.6	7.0	52.5
32.	Cuba	1943	57.7	85.0	38.2	33.6	34.0	43.5	14.2	17.4	41.7
33.	Ecuador	1950	38.8	54.5	24.2	26.0	9.6	55.4	21.8	9.0	48.3
34.	El Salvador	1950	33.9	38.6	26.7	37.0	7.0	63.6	13.1	6.9	60.5
35.	Haiti	1950	78.1	88.4	45.5	56.6	25.7	86.4	25.0	10.8	76.1
36.	Honduras	1950	49.4	54.5	34.6	36.7	n.a.	52.6	n.a.	8.7	74.1
37.	Mexico[i]	1950	47.5	63.9	27.9	26.8	11.4	72.4	12.8	13.0	54.4
38.	Nicaragua	1950	41.1	47.5	28.6	n.a.	n.a.	n.a.	n.a.	n.a.	66.0
39.	Paraguay	1950	45.5	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
40.	Peru	1940	51.3	59.1	40.3	58.7	6.1	65.0	27.0	11.1	58.6
41.	Puerto Rico[fj]	1950	16.8	17.8	16.2	8.2	5.4	44.9	19.9	9.7	36.9
42.	Venezuela	1950	36.6	57.1	23.0	27.5	16.3	56.9	33.5	4.9	39.8
	VI Oceania										
43.	Australia	1947	19.9	62.3	12.4	8.4	12.9	20.9	9.4	12.9	15.0
44.	New Zealand	1951	20.4	56.4	12.3	8.9	22.6	16.9	7.0	10.6	18.3

n.a.: not available.

a. Excludes persons doing compulsory military service. Employed persons only.

b. Includes armed forces outside the country and excludes alien armed forces within.

c. Excludes economically active persons with no remuneration or those whose social status provides the means of subsistence.

c. Excludes economically active persons with no remuneration or those whose social status provides the means of subsistence.

d. Excludes the unemployed.
e. Excludes persons doing compulsory military service. Members of cooperatives included with entrepreneurs.
f. Excludes unemployed persons seeking work for first time.
g. Excludes armed forces outside of the country.
h. Excludes colonos and comunarios.
i. Excludes persons unemployed thirteen weeks or more.
j. Includes U. S. armed forces stationed here.

Sources: U.N. Demographic Yearbook, 1955, for all lines except 5, 7, 9, 17, 18, 22, 30, 32, 39, 40.
I.L.O. Yearbook of Labour Statistics, 1957, for lines 5, 7, 17, 18, 22, 30, 32, 39.
I.L.O. Yearbook of Labour Statistics, 1955, for line 9.
U.N. Demographic Yearbook, 1948, for line 40.

Labor force excludes unpaid family labor and in columns 2-4 persons with status unknown. The A sector includes agriculture, forestry, and fishing.

Government employees are included in the industrial sectors in which they are engaged.

Appendix Table 8.
Income per Entrepreneur and per Employee and Ratio of Income per Entrepreneur to Income per Employee, Selected Countries, Recent Years (Income Expressed as Relative of Countrywide Income per Worker, Current Prices)

	Relative of Income Per:		Ratio of Income per Entrepreneur to Income per Employee
	Entrepreneur (1)	Employee (2)	(3)
I Europe			
1. Belgium	1.53	0.84	1.82
2. Finland	1.09	0.97	1.12
3. Sweden	1.14	0.96	1.19
4. Switzerland	1.17	0.96	1.22
5. United Kingdom	1.62	0.95	1.71
II Asia			
6. Japan	1.11	0.92	1.21
III Northern America			
7. Canada	1.01	1.00	1.01
8. United States	0.91	1.02	0.89
IV Latin America			
9. Chile	1.96	0.69	2.84
10. Colombia	1.05	0.97	1.08
11. Costa Rica	1.34	0.89	1.51
12. Cuba	0.39	1.83	0.21
13. Ecuador	0.87	1.08	0.81
14. Honduras	1.00	1.00	1.00
15. Peru	1.00	1.00	1.00
V Oceania			
16. Australia	1.42	0.90	1.58
17. New Zealand	1.58	0.85	1.86

Derived from Appendix Tables 6 and 7.

APPENDIX E

REFERENCE TABLES ON LONG-TERM CHANGES IN DISTRIBUTIONS OF NATIONAL INCOME BY TYPE OF INCOME AND OF LABOR FORCE BY STATUS

Appendix Table 9.
Approximate Distribution of National Income, United Kingdom, 1869-1954 (in Average Decade Percentages of Total National Income)

	Percentage Share of:			Percentage Share of Employers and Own-Account Workers in Labor Force	Estimated Entrepren. Income as % of Nat. Income	Profits and Interest as % of National Income (3 - 5)	Income from Assets as % of National Income (2 + 6)
	Wages and Salaries (1)	Rents (2)	Profits, Interest, and Mixed Income (3)	(4)	(5)	(6)	(7)
1. 1860-69	47.4	13.7	38.9	13	16.7	22.2	35.9
2. 1865-74	47.6	13.0	39.4	13	16.7	22.7	35.7
3. 1870-79	48.7	13.1	38.2	13	17.1	21.1	34.2
4. 1875-84	48.8	13.9	37.3	13	17.1	20.2	34.1
5. 1880-89	48.2	14.0	37.9	13	16.9	21.0	35.0
6. 1885-94	49.2	13.0	37.8	13	17.3	20.5	33.5
7. 1890-99	49.8	12.0	38.2	13	17.5	20.7	32.7
8. 1895-1904	49.6	11.6	38.8	13	17.4	21.4	33.0
9. 1900-09	48.4	11.4	40.2	13	17.0	23.2	34.6
10. 1905-14	47.2	10.8	42.0	12.8	16.2	25.8	36.6
11. 1920-29	59.7	6.6	33.7	9.8	14.6	19.1	25.7
12. 1925-34	60.9	8.1	31.0	9.4	14.1	16.9	25.0
13. 1930-39	62.2	8.7	29.1	9.0	13.7	15.4	24.1
14. 1935-44	64.0	6.7	29.3	8.4	12.9	16.4	23.1
15. 1940-49	68.8	4.9	26.3	7.9	12.9	13.4	18.3
16. 1945-54	71.6	4.2	24.2	7.3	12.2	12.0	16.2

(Notes on next page)

Notes to Appendix Table 9

Columns 1, 2, and 3 are from a manuscript by Phyllis Deane presenting a critical review and collation of national income and wealth estimates for the United Kingdom since the beginning of the 19th century.[1] The estimates of national income are essentially those of A. R. Prest, "National Income of the United Kingdom, 1870-1946", Economic Journal, March 1948, and of the annual White Papers and Blue Books. Prest's estimates have been adjusted to include estimated profits of cooperatives, incomes of non-profit-making institutions, and employers' insurance contributions, and for the period 1870-1913 these estimates were derived from James B. Jefferys and Dorothy Walters, "National Income and Expenditure of the United Kingdom", Income and Wealth, Series V, Bowes and Bowes, London, 1955. The estimates of wages and salaries are based on the work of Arthur Bowley, and Agatha Chapman's Wages and Salaries in the United Kingdom, 1920-1938, London, 1953; those of rent are derived from E.H. Phelps-Brown and P.E. Hart, "The Share of Wages in National Income", Economic Journal, June 1952. Those for profits, interest, and mixed income are a residual, derived by subtracting wages and salaries, and rents, from the national income totals.

Phyllis Deane's manuscript also provides the percentage shares, based on census data, of employers and own-account workers in the total labor force of Great Britain: 12.8 for 1911; 10.1 for 1921; an estimate of 9.3 for 1931 (6.1 is given for own-account workers, and the proportion of employers estimated by us at 3.2 percent, on the basis of 3.8 in 1921 and 2.2 in 1951); and 7.2 for 1951. Phelps-Brown and Hart, in the paper cited above, estimate the percentage of wage earners alone in the total labor force to be 84.1 in 1870, declining to 66.2 in 1950. For decades before 1911 the share of employers and own-account workers in total labor force cannot, therefore, be assumed to be much higher than the 12.8 percent shown for that year. For this reason the share is set at 13 percent in column 4 for all periods preceding 1905-14; the entries for later decades are simple arithmetic interpolations between the census year values.

According to the United Nations Yearbook of National Accounts Statistics, 1957, in 1951 income from unincorporated enterprises was £1,174 million, compensation of employees was £8,471 million, and the ratio of the former to total participation income was 0.122. In that year, employers and own-account workers were only 0.072 of the total labor force. Thus the ratio of income to number was 1.7. For the earlier years we can only conjecture as to the ratio. It would be lowered by the rising proportion over time of salaried workers among the total of wage earners and salaried people; and even otherwise employers and own-account workers may well have received higher returns, relative to employees, before than after World War I. On the whole, it seemed best to assume a constant two to one ratio. Accordingly we derived the entries in column 5 by the formula: Column 5 = [Column 1 : (100 - 2 Column 4)] - Column 1.

Some confirmation of the proportions in column 7 is provided by A. L. Bowley's estimates (see his Wages and Salaries in the United Kingdom since 1860, Cambridge, 1937). His shares of unearned income in total income for 1880 and 1913 are 37.3 percent and 37.4 percent; and for 1911 (including Southern Ireland) and for 1924 (excluding Southern Ireland) they are 31.9 percent and 28.7 percent (p. 96). While the levels of the shares given by Bowley are fairly similar to those shown in column 7, his series declines much less from 1911 to 1924 than the series given here. The present series is based, however, on more recent data.

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1. I am indebted to Miss Phyllis Deane for permission to use the results of her work prior to publication.

(Notes on next page)

Appendix Table 10.
Distribution of Aggregate Payments and National Income, France, Selected Years, 1853-1956

	Percentage Share in Countrywide Total of:					
	Compensation of Employees (1)	Income of Unincorp. Enterprises (2)	Interest and Dividends (3)	Rent (4)	Gross Corporate Savings (5)	Income from Assets (6)
Pupin Estimates, Aggr. Payments (excl. col. 5)						
1. 1853	36.2	46.1	17.7			17.7
2. 1878	35.5	42.8	21.7			21.7
3. 1903	45.1	31.9	23.0			23.0
4. 1911	43.7	31.9	24.4			24.4
5. 1911 (incl. col. 5)	43.1	31.4	24.1		1.4	25.5
de Bernonville Estimates						
6. 1913	44.6	33.1	12.4	7.2	2.8	22.4
7. 1920-29	50.4	29.1	12.7	4.5	3.3	20.5
8. 1929-38	56.2	23.7	11.6	6.0	2.5	20.1
United Nations Estimates						
9. 1952-56	59.0	31.3	4.5	0.2	4.9	9.6

Lines 1-5: Based on Rene Pupin, La Richesse de la France devant la Guerre, Paris, 1916, particularly the tables on pp. 53-54 and 116-117. The following adjustments were made in Pupin's calculations: (i) the item for returns from savings offices, pensions, old age payments, etc. was transferred to compensation of employees, being dominated by pensions, retirement payments, and the like (see p. 59); (ii) Pupin's estimate for 1911 (see p. 54, footnote 2) of 3,5 million francs for products retained by farmers for own consumption was included with entrepreneurial income (under the agricultural sector) and estimat for earlier years on the basis of the 1911 ratio to entrepreneurial income in ag riculture; (iii) Pupin's estimate for 1911 of roughly 500 million francs for net undistributed profits of corporations (see p. 54, footnote 2) was included in lin 5. The national income total thus derived for 1911, 36.0 billion francs, is not too different from that used by Dugé de Bernonville for 1913, 36.3 billion fran or from a total Pupin derived by the final products method in a later book, 38. billion francs, if we exclude the duplicating item of pensions, interest on savin accounts, etc. (see his Richesse Privée et Finances Francaises, Paris, 1919, p.

Lines 6-8: The basic data are from Dugé de Bernonville, "Les Revenues Privés" Revue d'Economie Politique, 1937, p. 549, and "Les Revenues Privés et Les Consommations", ibid., 1939, p. 959. In his estimates corporate business savings are included with entrepreneurial income from manufacturing and trad (one of three subdivisions of total entrepreneurial income). We assumed that such corporate savings (gross) were one-fourth of that total, since in 195 56 they were about 16 percent of total income of unincorporated enterprises; and the assumption followed here yields a somewhat lower ratio for earlier years (rising from somewhat less than 9 percent in 1913 to over 10 percent in the 1920's and 1930's). Pensions and relief payments, shown separately in the original source, are included in compensation of employees.

Line 9: Based on data in the United Nations Yearbook of National Accounts Statistics, 1957, New York, 1958, p. 77. Excludes government income from property and entrepreneurship.

Appendix Table 11.
Distribution of Participation Income and Labor Force between Entrepreneurs and Employees, France, Selected Years, 1853-1956

	Percentage Share in Participation Income		Percentage Share in Labor Force		Relative Income per Worker		
	Entrepreneurs (1)	Employees (2)	Entrepreneurs (3)	Employees (4)	Entrepreneurs (1) : (3) (5)	Employees (2) : (4) (6)	Ratio of (5) to (6) (7)
Pupin Estimates							
1. 1853, 1851	56.0	44.0	36.1	63.9	1.55	0.69	2.25
2. 1878, 1876	54.7	45.3	32.6	67.4	1.68	0.67	2.51
3. 1903 and 1911, 1906	41.8	58.2	33.1	66.9	1.26	0.87	1.45
de Bernonville and United Nations Estimates							
4. 1913, 1906	42.6	57.4	41.6	58.4	1.02	0.98	1.04
5. 1920-29, 1921	36.6	63.4	38.6	61.4	0.95	1.03	0.92
6. 1929-38, 1936	29.7	70.3	39.1	60.9	0.76	1.15	0.66
7. 1952-56, 1954	34.7	65.3	35.1	64.9	0.99	1.01	0.97

The first entry in the stub refers to the years covered by the income data; the second entry refers to the year covered by the labor force data.

Columns 1 and 2: derived from Appendix Table 10, columns 1 and 2.

Columns 3 and 4: derived from data in "The World's Working Population: Its Distribution by Status and Occupation", International Labour Review, Vol. LXXIV, No. 2, August 1956, Table II, p. 179. Labor force includes unpaid family labor, entered under employers and workers on own account, and not shown separately.

For line 3 we used data from Rene Pupin, La Richesse de la France devant la Guerre, p. 48. Pupin includes most own-account workers (except those in professional pursuits) under employees; and since we used his distribution of participation income, we also used his distribution of the labor force for 1906. For lines 1 and 2 we extrapolated by the movement in the shares shown by the International Labour Review data.

For lines 4-7 we used the data in the International Labour Review.

Appendix Table 12.
Distribution of National Income, Germany, Selected Years, 1895-1938

		Percentage Share in National Income of:		
		Compensation of Employees (1)	Income of Unincorp. Enterprises (2)	Income from Assets (3)
	Jostock Estimates			
1.	1895	38.6	44.8	16.6
2.	1900	40.1	41.8	18.1
3.	1907	43.6	38.8	17.6
4.	1913	46.5	35.3	18.2
5.	1925	58.3	29.2	12.5
6.	1938	55.7	31.9	12.4
	Official Estimates			
7.	1913	47.8	32.7	19.5
8.	1925-29	64.4	26.2	9.4
9.	1930-34	67.7	22.9	9.4
10.	1935-38	62.9	26.0	11.1

Lines 1-6: from Paul Jostock, "The Long-Term Growth of National Income in Germany", Income and Wealth, Series V, Bowes and Bowes, London, 1955, Table IX, p. 109. Lines 1-4 are for territory before 1914; lines 5-6 for territory of 1925. Column 2 includes undistributed corporate profits. Column 3 includes income from domestic service for 1895, 1900, and 1907, and pensions of civil servants for all dates.

Lines 7-10: from Statistisches Reichsamt, Das Deutsche Volkseinkommen vor und nach dem Kriege, Berlin, 1932, p. 83; and subsequent issues of the Statistical Yearbook. Data are for post-World War I territory, including the Saar since 1935.

Appendix Table 13.
Distribution of Participation Income and Labor Force between Entrepreneurs and Employees, Germany, Selected Years, 1895-1938

	Percentage Share in Participation Income		Percentage Share in Labor Force		Relative Income per Worker		
	Entrepreneurs (1)	Employees (2)	Entrepreneurs (3)	Employees (4)	Entrepreneurs (1) : (3) (5)	Employees (2) : (4) (6)	Ratio of (5) to (6) (7)
Jostock Estimates							
1. 1895	53.7	46.3	25.7	74.3	2.09	0.62	3.37
2. 1907	47.1	52.9	22.4	77.6	2.10	0.68	3.09
3. 1913	43.2	56.8	21.2	78.8	2.04	0.72	2.83
Official Estimates							
4. 1913	40.6	59.4	21.2	78.8	1.92	0.75	2.56
5. 1925	31.1	68.9	18.9	81.1	1.65	0.85	1.94
6. 1938	30.1	69.9	16.7	83.3	1.80	0.84	2.14

Columns 1 and 2: from Appendix Table 12 or sources underlying it.
Columns 3 and 4: except for 1895, for which the data are from the Statistical Yearbook, 1938, from the source cited for Appendix Table 11, columns 3 and 4. The underlying data are for Germany, territory of 1934, and relate to labor force, excluding unpaid family labor, in 1882, 1907, 1925, and 1939. We estimated the shares for 1913 by linear interpolation between the shares for 1907 and 1925. The shares for 1939 were used in conjunction with the shares in participation income for 1938.

Appendix Table 14.
Distribution of National Income, Switzerland, Selected Years, 1913-1956

		Percentage Share in National Income of:		
		Compensation of of Employees (1)	Income of Unincorp. Enterprises (2)	Income from Assets (3)
	Mori Estimates			
1.	1913	66.2		33.8
2.	1924	74.6		25.4
	Switzerland Statistical Office Estimates			
3.	1924	51.6	25.1	23.3
4.	1928-33	52.3	21.2	26.5
5.	1934-38	51.6	21.4	27.0
6.	1938	50.7	22.2	27.1
	United Nations Estimates			
7.	1938	48.4	21.5	30.1
8.	1938-42	48.9	23.1	28.0
9.	1943-47	54.1	24.3	21.6
10.	1948-52	59.6	20.7	19.7
11.	1952-56	60.6	18.9	20.5

Lines 1-2: P. Mori, "Das Schweizerische Volkseinkommen", Zeitschrift für Schweizerische Statistik und Volkswirtschaft, Vol. 62, Heft 4, 1926, pp. 512-542.
Lines 3-6: Eidgenoessisches Statistisches Amt, Schweizerisches Volkseinkommen 1924, 1929 bis 1938, p. 15.
Lines 7-9: U.N. National Income Statistics, 1938-1948, New York, 1950, p. 160.
Line 10: U.N. Statistical Papers, Series H, No. 9, New York, 1956, p. 39.
Line 11: U.N. Yearbook of National Accounts Statistics, 1957, New York, 1958, p.

Appendix Table 15.
Distribution of Participation Income and Labor Force between Entrepreneurs and Employees, Switzerland, Selected Years, 1888-1950

		1888	1910	1930	1950
	Share in Participation Income				
1.	Entrepreneurs	n.a.	n.a.	30.5 (1929-31)	25.9 (1949-51)
2.	Employees	n.a.	n.a.	69.5 "	74.1 "
	Share in Labor Force (excl. Unpaid Family Labor)				
3.	Entrepreneurs	35.1	29.1	24.1	20.2
4.	Employees	64.9	70.9	75.9	79.8
	Relative Income per Worker				
5.	Entrepreneurs (1 : 3)	n.a.	n.a.	1.27	1.28
6.	Employees (2 : 4)	n.a.	n.a.	0.92	0.93
7.	Ratio, (5) to (6)	n.a.	n.a.	1.38	1.38

Lines 1-2: derived from sources underlying Appendix Table 14.
Lines 3-4: from "The World's Working Population: Its Distribution by Status and Occupation", International Labour Review, Vol. LXXIV, No. 2, August 1956, Table II, p. 179.

Appendix Table 16.
Share of "Labor" Income of Employees and Entrepreneurs in Total Income, United States, 1870 to World War I

	Periods Covered and Percentage Shares of Countrywide Totals				
	(1)	(2)	(3)	(4)	(5)
Based on Adjustment of W. I. King's Estimates, % Share in Private Income					
1. Date	1869-70	1879-80	1889-90	1899-1900	1909-10
2. Share of employees	42.7	43.0	49.7	46.1	47.8
3. Share of proprietors and farmers, including unpaid family workers in agriculture	23.2	21.2	20.5	17.2	15.3
4. Total share (2 + 3)	65.9	64.2	70.2	63.3	63.1
Based on Estimated Earnings of Labor Force (incl. Unpaid Family Labor) and Net National Product					
5. Date	1869-78	1874-83	1884-93	1894-1903	1904-13
6. Share	72.8	62.3	72.6	73.5	69.3

Source: Edward C. Budd, "United States Factor Shares, 1850-1910", presented to the 1957 Conference on Research in Income and Wealth (mimeographed), Tables 8 and 10, pp. 27 and 35.
The labor income of entrepreneurs is estimated by multiplying their numbers by average annual earnings of employees, for agriculture and industry separately (see p. 6).

Appendix Table 17.
Distribution of National Income, United States, 1899-1957

		Percentage Share in National Income or Allocated Total						Percentage Share in Aggregate Payments		
		Compens. of Employees (1)	Income of Unincorp. Enterprises (2)	Property Income of Households (3)	Corporate Undistributed Profits (4)	Corp. Taxes (5)	Income from Assets (3 + 4 + 5) (6)	Compens. of Employees (7)	Income of Unincorp. Enterprises (8)	Property Income of Households (9)
	Martin Estimates as revised by Schuller									
1.	1899-1908	57.1	24.1	15.3	3.5	-	18.8	59.2	25.0	15.8
2.	1904-13	58.1	23.1	16.0	2.7	-	18.7	59.8	23.8	16.5
3.	1909-18	56.7	23.1	15.5	3.6	1.0	20.1	59.5	24.2	16.3
	N.B.E.R. Estimates									
4.	1909-18	53.3	23.3	18.1	3.6	1.6	23.3	56.2	24.6	19.2
5.	1914-23	55.3	21.0	17.1	4.4	2.1	23.6	59.2	22.5	18.3
6.	1919-28	58.1	18.4	17.7	4.0	1.8	23.5	61.7	19.5	18.8
7.	1924-33	61.7	16.2	19.8	0.8	1.4	22.0	63.1	16.6	20.3
8.	1929-38	65.3	16.0	19.4	-2.1	1.5	18.8	64.9	15.9	19.2
	Department of Commerce Estimates									
9.	1929-38	64.5	15.5	20.6	-2.1	1.5	20.0	64.0	15.4	20.5
10.	1934-43	63.6	16.3	14.2	1.1	4.8	20.1	67.6	17.4	15.0
11.	1939-48	63.6	17.1	10.7	2.7	6.0	19.4	69.6	18.7	11.7
12.	1944-53	64.4	15.8	10.4	3.1	6.3	19.8	71.0	17.4	11.5
13.	1948-57	65.9	13.8	11.1	3.0	6.3	20.4	72.6	15.2	12.2

(Notes on next page)

Notes to Appendix Table 17.

Lines 1-3: the R. F. Martin estimates adjusted by George J. Schuller in "The Secular Trend in Income Distribution by Type, 1869-1948: A Preliminary Estimate", The Review of Economics and Statistics, Vol. XXXV, No. 4, November 1953, pp. 302-324, particularly Table 7, pp. 314-315. We took the ratios of compensation of employees and of entrepreneurial net income to national income, modified by the inclusion of government interest (given in the same table). Total income from assets was broken down by the ratio of undistributed corporate profits, including the inventory valuation adjustment, to national income, based on cost valuation of depreciation charges, derived from Raymond W. Goldsmith and others, A Study of Saving in the United States, Vol. III, Princeton, 1956, pp. 435 and 427. The share of property income of households was derived by subtracting the shares of undistributed corporated profits and corporate taxes from the share of total income from assets.

Lines 4-8: the basic source is "Income and Wealth of the United States: Trends and Structure", Income and Wealth, Series II, International Association for Research in Income and Wealth, Bowes and Bowes, Cambridge, 1952, Table 27, p. 136, which gives the distribution of aggregate payments, based on N.B.E.R. estimates. The ratios of undistributed corporate profits and corporate tax liability to aggregate income payments were derived from Raymond W. Goldsmith and others, op. cit., Vol. III, p. 435, aggregate income payments being computed by adding social insurance to personal income and subtracting business and government transfer payments. Having the ratio of undistributed corporate profits and corporate taxes to aggregate income payments, we converted the distribution of aggregate payments into a distribution of national income.

Lines 9-13: all underlying data are from National Income, 1954 Edition, a Supplement to the Survey of Current Business, Washington, 1954, Tables 1 and 3, and the Survey of Current Business, July 1958, Tables 1 and 3. As in all other cases, the percentage shares are computed from decennial totals of absolute data.

Appendix Table 18.
Long-Term Changes in Structure of Participation Income and Occupied

Panel A.

		Percentage Share in Total Participation Income					
		Total Occupied (1)	Entrepreneurs (2)	Employees (3)	Agr. Total (4)	Agr. Entrepreneurs (5)	Agr. Employees (6)
	King Estimates						
1.	1909-13	100.0	34.3	65.7	16.5	13.6	2.9
2.	1914-18	100.0	34.3	65.7	17.9	15.3	2.6
3.	1919-23	100.0	29.2	70.8	13.9	11.3	2.6
	Kuznets Estimates						
4.	1919-23	100.0	25.6	74.4	13.5	10.9	2.6
5.	1924-28	100.0	22.9	77.1	11.5	9.4	2.1
6.	1929-33	100.0	19.4	80.6	8.7	7.0	1.7
7.	1934-38	100.0	20.5	79.5	10.2	8.9	1.3
	Department of Commerce Estimates						
8.	1929-33	100.0	18.4	81.6	9.5	7.4	2.1
9.	1934-38	100.0	20.0	80.0	10.2	8.3	1.8
10.	1939-43	100.0	21.0	79.0	9.8	8.2	1.6
11.	1944-48	100.0	21.4	78.6	10.4	8.6	1.8
12.	1949-53	100.0	17.8	82.2	8.1	6.5	1.6

Panel B. Structure

	King Estimates						
1.	1909-13	100.0	27.8	72.2	24.7	17.7	7.0
2.	1914-18	100.0	25.6	74.4	22.7	16.4	6.3
3.	1919-23	100.0	24.5	75.5	21.5	15.5	6.0
	Kuznets Estimates						
4.	1919-23	100.0	22.0	78.0	20.3	14.9	5.4
5.	1924-28	100.0	20.9	79.1	18.3	13.5	4.8
6.	1929-33	100.0	20.2	79.8	17.7	13.0	4.7
7.	1934-38	100.0	20.2	79.8	17.3	13.1	4.2
	Department of Commerce Estimates						
8.	1929-33	100.0	20.9	79.1	19.8	11.7	8.1
9.	1934-38	100.0	20.3	79.7	18.4	11.4	7.0
10.	1939-43	100.0	17.6	82.4	14.3	9.2	5.1
11.	1944-48	100.0	16.1	83.9	11.7	7.8	3.9
12.	1949-53	100.0	15.5	84.5	9.9	6.4	3.5

(Continued on next page)

Population, United States, 1909-1953

Structure of Income

Non-Agr. Total (7)	Non-Agr. Entrepreneurs (8)	Non-Agr. Employees (9)	Share within Agr. Entrepreneurs (10)	Share within Agr. Employees (11)	Share within Non-Agr. Entrepreneurs (12)	Share within Non-Agr. Employees (13)
83.5	20.7	62.8	82.4	17.6	24.8	75.2
82.1	19.0	63.1	85.5	14.5	23.1	76.9
86.1	17.8	68.3	81.3	18.7	20.7	79.3
86.5	14.6	71.9	80.7	19.3	16.9	83.1
88.5	13.5	75.0	81.7	18.3	15.3	84.7
91.3	12.4	78.9	80.5	19.5	13.6	86.4
89.8	11.7	78.1	87.3	12.7	13.0	87.0
90.5	11.0	79.5	77.9	22.1	12.2	87.8
89.8	11.6	78.2	81.4	18.6	12.9	87.1
90.2	12.8	77.4	83.7	16.3	14.2	85.8
89.6	12.8	76.8	82.7	17.3	14.3	85.7
91.9	11.3	80.6	80.2	19.8	12.3	87.7

of Labor Force

75.3	10.0	65.3	71.7	28.3	13.3	86.7
77.3	9.2	68.1	72.2	27.8	11.9	88.1
78.5	9.0	69.5	72.1	27.9	11.5	88.5
79.7	7.1	72.6	73.4	26.6	8.9	91.1
81.7	7.4	74.3	73.8	26.2	9.1	90.9
82.3	7.2	75.1	73.4	26.6	8.7	91.3
82.7	7.1	75.6	75.7	24.3	8.6	91.4
80.2	9.2	71.0	59.1	40.9	11.5	88.5
81.6	8.9	72.7	62.0	38.0	10.9	89.1
85.7	8.4	77.3	64.3	35.7	9.8	90.2
88.3	8.3	80.0	66.7	33.3	9.4	90.6
90.1	9.1	81.0	64.6	35.4	10.1	89.9

Panel C. Relatives of Income per Worker and Shares

		Relative of Countrywide Participation Income per Worker					
		Total		Agr. Sector		Non-Agr. Sector	
		Entrepreneurs (1)	Employees (2)	Entrepreneurs (3)	Employees (4)	Entrepreneurs (5)	Employees (6)
	King Estimates						
1.	1909-13	1.23	0.91	0.77	0.41	2.07	0.96
2.	1914-18	1.34	0.88	0.93	0.41	2.07	0.93
3.	1919-23	1.19	0.94	0.73	0.42	1.98	0.98
	Kuznets Estimates						
4.	1919-23	1.16	0.95	0.73	0.48	2.06	0.99
5.	1924-28	1.10	0.97	0.70	0.44	1.82	1.01
6.	1929-33	0.96	1.01	0.54	0.36	1.72	1.05
7.	1934-38	1.01	1.00	0.68	0.31	1.65	1.03
	Department of Commerce Estimates						
8.	1929-33	0.88	1.03	0.63	0.26	1.20	1.12
9.	1934-38	0.99	1.00	0.73	0.26	1.30	1.08
10.	1939-43	1.19	0.96	0.89	0.31	1.52	1.00
11.	1944-48	1.33	0.94	1.10	0.46	1.54	0.96
12.	1949-53	1.15	0.97	1.02	0.46	1.24	1.00

Panel A, lines 1-3: from W. I. King, The National Income and Its Purchasing Power, National Bureau of Economic Research, 1930. Total compensation of employees, for agriculture and for the non-agricultural sectors, is from Table XIX, p. 122. Entrepreneurial income for farmers is from Table XCVIII, p. 308, column D. For other entrepreneurs it is derived by: (a) adding realized income of entrepreneurs and other property owners for all industries (except agriculture and miscellaneous) in Table XVII, p. 108; (b) subtracting from (a) net interest received by individuals from corporations (Table XXXVI, p. 126) and government (Table CXXVII, p. 370); net dividends on preferred and common stock (Tables XXXVII and XXXVIII, pp. 189 and 191)--reducing this subtrahend by other income of farmers (Table XCVII, p. 308, column E) the latter excluding imputed rent on owned homes of farmers. This imputed rent item is derived by subtracting the farm income total in column A of Table XCVIII from that for agriculture in Table XVII. The entrepreneurial income totals here are limited to withdrawals but include rent received by individuals other than on urban homes.

Panel A, lines 4-7: from Simon Kuznets, National Income and Its Composition, National Bureau of Economic Research, 1941, Tables 46, 50, and 52, pp. 312-317.

Panel A, lines 8-12: from National Income, 1954 Edition, a Supplement to the Survey of Current Business, Washington, 1954, Tables 14 and 17, pp. 178-179 and 182-183, and the Survey of Current Business, July 1958, Tables 14 and 17.

of Agriculture among Entrepreneurs and Employees

Ratio of Income per Entrepreneur to Income per Employee			Share of Agr. Sector	
Total (7)	Agr. Sector (8)	Non-Agr. Sector (9)	Among Entrepreneurs (10)	Among Employees (11)
1.35	1.88	2.16	63.7	9.7
1.52	2.27	2.23	64.1	8.5
1.27	1.74	2.02	63.3	7.9
1.22	1.52	2.08	67.7	6.9
1.13	1.59	1.80	64.6	6.1
0.95	1.50	1.64	64.4	5.9
1.01	2.19	1.60	64.9	5.3
0.85	2.42	1.08	56.0	10.2
0.99	2.81	1.20	56.2	8.8
1.24	2.87	1.52	52.3	6.2
1.41	2.39	1.60	48.4	4.6
1.19	2.22	1.24	41.3	4.1

Panel B, lines 1-3: from W. I. King, op. cit., Tables II, IV, V, and VI, pp. 50, 56, 60, and 62.

Panel B, lines 4-7: entrepreneurs are from Simon Kuznets, op. cit., Table 53, pp. 316-317, which also gives entrepreneurs in agriculture and non-agricultural sectors. The total of employees is obtained by subtracting the entrepreneurs from total labor force, the latter given in Capital Formation and Financing: Trends and Prospects, Vol. II, Part E (manuscript in press). The apportionment of employees between those in the A and the non-A sectors is by the apportionment of full-time equivalents employed, given in National Income and Its Composition, Table 51, pp. 314-315.

Panel B, lines 8-12: entrepreneurs, total and subdivided by sectors, are from National Income, 1954 Edition, Table 28, pp. 202-203. The derivation of employees is again by subtraction of entrepreneurs from total labor force; and the breakdown of employees between the A and non-A sectors on the basis of full-time equivalents employed, in ibid., Table 25, p. 196. The procedure is that used for lines 4-7 above.

Panel C: derived directly from Panels A and B, or from data underlying them.

Appendix Table 19.
Distribution of National Income, Australia, Selected Years, 1910-1956

	Percentage Share in National Income of:				
	Compensation of Employees (1)	Income of Unincorp. Enterprises (2)	Property Income of Households (3)	Other Income from Assets (4)	Total Income from Assets (3 + 4) (5)
Sutcliffe Estimates					
1. 1910-14	59.9	n.a.	n.a.	n.a.	n.a.
2. 1915-19	53.5	n.a.	n.a.	n.a.	n.a.
3. 1919-23	60.6	n.a.	n.a.	n.a.	n.a.
Brown Estimates					
4. 1928-29	55.8	19.5	n.a.	n.a.	24.7
Official Estimates, Reported in U.N. Publications					
5. 1938-39	56.0	20.2	13.2	10.6	23.8
6. 1946-50	50.6	28.4	9.3	11.6	20.9
7. 1952-56	58.5	23.0	8.7	9.8	18.5

Lines 1-3: from J. T. Sutcliffe, The National Dividend, Melbourne, 1926, Table 15, p. 35. The years here, as in all lines, are fiscal years beginning with July 1 of the year indicated. The shares are arithmetic means of the percentage shares for the single years given in the table.

Line 4: from H. P. Brown, "The Composition of Personal Income", The Economic Record, June 1949, pp. 18-36, particularly Tables III and IV, pp. 34 and 35. We included net income distributed by public authorities with income from assets; and added income retained by companies and financial institutions. The shares are again arithmetic means of percentage shares for the two years. The Brown series extends to 1947, but since during the depressed 1930's net income distributed by public authorities was swelled by relief payments, it could not be included under income from assets.

Line 5: from United Nations, National Income Statistics, 1938-1948, New York, 1950, pp. 27-35. Columns 1, 2, and 3 are from Table 5, p. 32, and column 4 is based on the sum of undistributed profits (Table 6, p. 32), surplus of public authority business undertakings (Table 3, p. 30) and direct taxes on companies (Table 3, p. 30). Here and in lines 6 and 7, percentage shares were calculated from the arithmetic means of the absolute amounts for the period covered.

Line 6: from United Nations Statistical Papers, Series H, No. 8 and Series H, No. 9, New York, 1955 and 1956, pages 59 and 31, respectively.

Line 7: from United Nations Yearbook of National Accounts Statistics, 1957, New York, 1958, p. 3.